TRANSMITTAL LETTER (General - Patent Pending)	Docket No. 98-007

In Re Application Of: WALKER et al.

Serial No. 09/049,297	Filing Date March 27, 1998	Examiner John W. Hayes	Group Art Unit 3621

Title: SYSTEM AND METHOD FOR TRACKING AND ESTABLISHING A PROGRESSIVE DISCOUNT BASED UPON A CUSTOMER'S VISITS TO A RETAIL ESTABLISHMENT

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Reply Brief to Examiner's Answer, mailed January 20, 2004 (40 pp.) (in triplicate);
In re Toma, Solicitor's Brief (23 pp.) (in triplicate); In re Toma, Board Opinion I (13 pp.) (in triplicate);
In re Toma, Board Opinion II (5 pp.) (in triplicate); and
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants: Jay S. Walker, Andrew S. Van   ) Group Art Unit: 3621
              Luchene, Magdalena Mik,   )
              John Chuprevich   ) Examiner: HAYES, John
)
Application No.: 09/049,297   ) **REPLY BRIEF**
)
Filed: March 27, 1998   ) Attorney Docket No. 98-007
)
For: SYSTEM AND METHOD FOR   )
       TRACKING AND ESTABLISHING   )
       A PROGRESSIVE DISCOUNT   )
       BASED UPON A CUSTOMER'S   )
       VISITS TO A RETAIL   )
       ESTABLISHMENT   )
)

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Dear Sir:

   Appellants hereby reply to the Examiner's Answer mailed January 20, 2004 (Paper No. 41). In particular, the Examiner raised for the first times in the Examiner's Answer, several new arguments and authorities in support of the Examiner's rejection.

Introduction

The sole issue

The sole issue in this case is whether the Examiner's Section 101 two-prong test has any basis in law.

The Examiner's Section 101 two-prong test is baseless and is contrary to law. The cited legal authorities do not stand for the propositions asserted.

The Examiner's adherence to an extraneous new "technology" requirement defies the relevant case law cited by Appellants. Even more, the Examiner's extraneous requirement is merely a transparent attempt to resurrect and re-package a host of discredited and overruled tests for statutory subject matter.

Summary of Arguments against the Purported Legal Basis of Two-prong Test

The Examiner's Section 101 two-prong test departs starkly from current Federal Circuit law. It allows for the contradictory possibility (as evidenced by the present case) that a claimed process can produce a useful, concrete and tangible result, yet still be directed to non-statutory subject matter. In particular, the Examiner's Section 101 two-prong test flies in the face of the definitive "practical application" standard, rendered in State Street Bank (Fed. Cir. 1998) and AT & T (Fed. Cir. 1999), for determining whether subject matter is statutory.

The Examiner's Section 101 two-prong test is also contrary to law because it necessarily defines a new category of subject matter (i.e., claimed processes that do not recite "technology") as being unpatentable under Section 101. There are exactly three categories of unpatentable subject matter that have been recognized by the Supreme Court: abstract ideas, natural phenomena, and laws of nature. Diamond v. Diehr (1981). See also, MPEP § 2106, p. 2100-11 (8th ed. Rev. 1, Feb. 2003). The Examiner cannot establish that Appellants' claims fall into any of these exceptions.

The Examiner's Section 101 two-prong test is predicated on what the Examiner admits was never ruled on by the Court. The legal basis of this test lies in the Examiner's incredible assertion that the Federal Circuit, in each of the landmark <u>AT & T</u> (1999), <u>State Street Bank</u> (1998), <u>In re Alappat</u> (1994) (in banc), and <u>Arrythmia</u> (1992) decisions, "silently considered" and "silently found satisfied" the Examiner's "technology" requirement. The Examiner's sole authority for the existence of a two-prong test (allegedly established in the 1970s) rests on this unsupported, present-day rationalization that watershed Federal Circuit decisions in the late 1990s are not inconsistent with his test. The Examiner's indefensible speculation regarding treatment of a fictitious requirement he admits was "never addressed" by the Federal Circuit in its Section 101 opinions violates *stare decisis* and strains credulity.

The Examiner's Section 101 two-prong test is also contrary to law because it is an improper requirement that a claimed process expressly recite some "component," "physical transformation," or "technology". The Federal Circuit held in <u>AT & T</u> that this analysis is now of "little value" because even a claim that involves an algorithm does not require a physical limitation to save it from being nonstatutory—it only must in operation produce a useful, concrete and tangible result.

The Examiner's Section 101 two-prong test is also contrary to law because it relies on <u>In re Toma</u> (CCPA 1970) as establishing both the Examiner's "technology" requirement and the Examiner's Section 101 two-prong test—<u>Toma</u> cannot support any such interpretation. To the contrary, the plain statements of the <u>Toma</u> court preclude the Examiner's confounding insistence that <u>Toma</u> established a lack of "technology" as grounds for rejection.

The Examiner's Section 101 two-prong test is also contrary to law because in applying it the Examiner holds that a process is directed to unpatentable subject matter merely because it might be capable of also being performed by a human or in the mind of a human. The mere fact that some or all of the steps of a method "may be carried out in or with the aid of the human mind" does not render a sequence of operational steps non-statutory under 35 U.S.C. §101. <u>In re Musgrave</u> (C.C.P.A. 1970). The Examiner continues to ignore this clear case law and is transparently attempting to resurrect an explicitly overruled "mental steps" doctrine.

The Examiner's Section 101 two-prong test is also contrary to law because in applying it the Examiner holds that a process is directed to unpatentable subject matter merely because one or more steps are capable of being performed by use of a pen and paper. Despite repeated requests, the Examiner has never attempted to cite any legal authority in support of such a finding.

In summary, all parties agree that all the claims produce a useful, concrete, and tangible result. Although not recognized by the Examiner, the existence of a useful, concrete, and tangible result necessarily means that the invention is not an abstract idea, per AT & T and State Street Bank.

There are only three exceptions to statutory subject matter: abstract ideas, laws of nature, and natural phenomena. Since the claims fall into none of those exceptions, the claims must define statutory subject matter.

Grouping of Claims (Section (7)) [Examiner's Answer, page 2]

As the Examiner's Answer does not dispute the grouping of Claims **98 and 108**, it is Appellants' understanding that the Examiner agrees that Claims **98 and 108** are separately patentable.

Provisional Double-Patenting Rejection [Examiner's Answer, page 11]

With respect to the provisional double patenting rejection noted on page 11 of the Examiner's Answer, during prosecution and at the time of the Appeal Brief neither application involved in this rejection had issued. Accordingly, Appellants failed to provide any arguments because there was no basis for an actual double patenting rejection. Accordingly, the failure to traverse the rejection is not an admission or concession of the propriety of the rejection.

Further, Appellants note that even the filing of a terminal disclaimer to obviate a double patenting rejection would not constitute an admission of the propriety of the rejection. See, e.g., Quad Envtl. Techs. Corp. v. Union Sanitary Dist., 946 F.2d 870 (Fed. Cir. 1991).

1.   GROUP I

GROUP I includes independent Claim **98**.

The rejection of the claims of GROUP I is flawed because the Examiner has not made a prima facie case of unpatentability of any claim of GROUP I.

Specifically, the Examiner has not shown that any claim of GROUP I can be deemed to be directed to non-statutory subject matter.

1.1.   No Prima Facie Showing that the Claim of GROUP I is Non-statutory

The Examiner has not provided a proper legal basis for rejecting the claim of GROUP I as non-statutory. Instead, the Examiner has proposed a novel legal test, which deems the

Federal Circuit's "useful, concrete and tangible result" standard to be insufficient and incomplete.

1.1.1. Appellants' Understanding of the Standard Used by the Examiner

The claim of GROUP I is rejected by the Examiner under 35 U.S.C. 101 "because the claimed invention is directed to non-statutory subject matter." [Examiner's Answer, page 2; Final Office Action mailed 12.30.02, page 3; Non-Final Office Action mailed 10.23.02, page 2]. Claim **98** is rejected under the proposed two-prong test.

1.1.2. Appellants' Understanding of Why Claim 98 Fails the Examiner's "Two-Prong Test"

It is Appellants' understanding that the Examiner bases the rejection of Claim **98** solely on the asserted failure of the claimed invention to satisfy the first requirement of the Examiner's proposed "two-prong test." According to the Examiner: "For a process claim to pass muster [i.e., to be statutory subject matter], the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, claims 98 and 108 only recite an abstract idea." [Examiner's Answer, page 4; Final Office Action mailed 12.30.02, page 3; Non-Final Office Action mailed 10.23.02, page 3].

1.1.3. The Claim Meets the Definitive Standard for Statutory Subject Matter

The Examiner and Appellants both agree that Claim **98** produces a useful, concrete and tangible result. As Appellants and the Examiner agree that Claim **98** produces a useful, concrete and tangible result, and is therefore necessarily limited to a practical application, the rejection of Claim **98** for lack of statutory subject matter cannot stand. Claim **98** cannot be directed to merely an idea in the abstract, or fall within any other two judicially-created exception to patentable subject matter.

The Examiner has never attempted to provide any rationale to explain this inconsistent and deeply flawed result of the application of the Examiner's "technology" requirement.

Briefly, Claim **98** includes the limitation of *determining a second discount based on whether the first difference is less than a predetermined minimum transaction period and whether the second difference is greater than a predetermined discount adjustment period.* As explained in Section 1.2 of the Appeal Brief and the Specification of the present application, this feature produces a useful, concrete and tangible result – a discount that may be used to influence a customer's behavior in ways desirable to a merchant. In this sense, the discount of Claim **98** is like the "final share price" deemed to be a useful, concrete and tangible result in State Street Bank. In addition, the limitation of *providing the second discount to a customer* may produce various useful, concrete and tangible results such as associating the second discount with the customer, or applying the second discount to a transaction of the customer.

The Examiner notes that "associating the second discount with the customer or applying the second discount to a transaction of the customer" are "useful, concrete and tangible results offered by the appellant [sic] [that] are not recited or even suggested in the claims being appealed." [Examiner's Answer, page 10].

As explained in the Appeal Brief and with reference to the Specification, the limitations of *providing the second discount to a customer* may encompass such activities in some embodiments. Accordingly, Claim **98** may produce the useful, concrete, and tangible results suggested by Appellants.

The Examiner's cause for concern is unclear. The Examiner continues (presumably with respect to Claim **98**): "The above cited limitation may be viewed, for example, as nothing more than simply mailing a coupon to the customer and may not actually ever be applied in a transaction with the customer." [Examiner's Answer, page 10]. Appellants never said that *providing the second discount to a customer* was restricted only to applying the discount in a transaction. That was but one example. As conceded by the Examiner, in some embodiments Claim **98** could also have the useful, concrete, and tangible result that a customer is provided a discount by way of "mailing a coupon to the customer."

Moreover, the scope of Claim **98** as presented encompasses a variety of specific implementations of the claimed process. Certain of these embodiments implicate the use of

devices (such as computers or data processing devices) in the processes. These "device-based" species clearly fall within the broader generic definition of the claimed processes. Given that utility for a genus may be established through a recitation of utility of a species within that genus, a determination that the generically claimed process of Claim **98** lacks utility is clearly improper.

The Examiner further criticizes Appellants for stating "that the scope of claims 98 and 108, as present [sic], encompass a variety of specific implementations of the claimed process and that certain of these embodiments implicate the use of devices (such as computers or data processing devices) in the processes. Examiner strongly disagrees with this notion...." [Examiner's Answer, page 10]. Appellants do not understand the basis for the disagreement.

The Examiner must admit that the Specification relates various ways in which the claimed invention may be practiced, some of which involve or "implicate" the use of one or more devices (such as computers or data processing devices). Contrary to the Examiner's implication, Appellants in no way stated that Claim **98** is expressly limited to being carried out by a computer or processing device. Nonetheless, when read in light of the Specification and in light of their ordinary meaning, Claim **98** would reasonably suggest to one having ordinary skill in the art that a computer or data processing device could be used to perform one or more steps of the claimed processes. Claim **98** clearly covers several such embodiments.

For example, contrary to the Examiner's assertion that Claim **98** could not encompass such implementations, the Specification indicates that at least one specific implementation of the claimed embodiments could comprise a data processing system such as computer-equipped automatic data processing system including a central processing unit (CPU) and a data storage device and configured to communicate with POS terminals as well as to perform various functionality. [See, e.g., Specification, page 6, lines 26-36 and FIG. 3; page 9, line 14 to page 10, line 17 and FIG. 5].

1.1.4. The Examiner's Two-Prong Test

The Examiner still asserts that the basis for rejection of both Claims **98 and 108** under 35 U.S.C. § 101 "is set forth in a two-prong test of:

(1) whether the invention is within the technological arts; and

(2) whether the invention produces a useful, concrete, and tangible

result."

(hereinafter the "Examiner's Section 101 two-prong test"). [Examiner's Answer, pages 2-3;

Final Office Action mailed 12.30.02, page 3 (Paper No. 37); Non-Final Office Action mailed

10.23.02, page 2 (Paper No. 34)].

The Examiner's Section 101 two-prong test still includes a novel requirement that "[f]or

a claimed process to pass muster, the recited process must somehow apply, involve, use, or

advance the technological arts" or be "within the technological arts" (hereinafter the

"Examiner's 'technology' requirement"). [Examiner's Answer, page 3].

According to the Examiner, "the first test of whether an invention is eligible for a patent

is to determine if the invention is within the 'technological arts.'" [Examiner's Answer, page

5].

The legal basis of the Examiner's "technology" requirement, which Appellants dispute,

is discussed below.

The second requirement of the Examiner's Section 101 two-prong test is that a claimed

invention must produce "a useful, concrete, and tangible result" under State Street Bank &

Trust Co. v. Signature Fin. Group, Inc., 149 F.3d 1368, 1375 (Fed. Cir. 1998), cert. denied, 525

U.S. 1093, 142 L. Ed. 2d 704, 119 S. Ct. 851 (1999) (hereinafter the "UCT result test" or

"practical application standard"). [Examiner's Answer, pages 3, 6].

By its language and the reference made by the Examiner to State Street Bank as its legal

basis, the UCT result test appears to resemble the legal standard regarded by Appellants as the

only and proper legal standard for determining statutory subject matter under Section 101.

As discussed further below, however, the Examiner clearly has failed to appreciate the

significance of the UCT result test. In particular, contrary to law, the Examiner insists that a

claim that produces a useful, concrete, and tangible result can also be held to be directed to

only an abstract idea (i.e., to not have a practical application). This is an impossibility under Federal Circuit jurisprudence.

1.1.5. Appellants' Understanding of the New Legal Basis for the Standard Used by the Examiner

In response to Appellants' Appeal Brief, the Examiner for the first time asserts a legal basis for the Examiner's Section 101 two-prong test. In summary, the Examiner asserts:

(i)   the Examiner's "technology" requirement was established by In re Toma (CCPA 1978);

(ii)   the Examiner's Section 101 two-prong test was "evident" in In re Toma (CCPA 1978);

(iii)   claims at issue in AT & T (Fed. Cir. 1999), State Street Bank (Fed. Cir. 1998), In re Alappat (Fed. Cir. 1994) (en banc), and Arrhythmia (Fed. Cir. 1992) would have satisfied the Examiner's "technology" requirement (although the Examiner admits that such a "technology" requirement was "never addressed");

(iv)   a "fundamental premise," rooted in the Constitution, that a patent must itself "promote the progress of 'science and the useful arts'"; and

(v)   the UCT result test was established in State Street Bank (Fed. Cir. 1998). [Examiner's Answer, pages 5-9].

The Examiner's "technology" requirement, the Examiner's Section 101 two-prong test, and the purported legal bases (i)-(v) are discussed in more detail below.

1.1.6. The Examiner Improperly Relies on the Silence of the Federal Circuit as Proof of a "Technology" Requirement

The Examiner's insistence that the Federal Circuit considered and resolved the issue of a "technology" requirement in each of the State Street Bank, AT & T, Alappat, and Arrhythmia decisions is baseless and contrary to law. To the extent that the Examiner relies upon such silence as grounds for the Examiner's "technology" requirement, neither that requirement nor the Examiner's Section 101 two-prong test can stand.

Every first-year law school curriculum includes instruction on *stare decisis*. According to this most fundamental of legal tenets, a previous decision of a court is subsequently binding on an issue of law when the issue is raised before the court, decided by the court, and made a part of the opinion by the court.

Conversely, it is beyond dispute that a legal principle, which has never been mentioned in any opinion, not even in dicta, is not binding precedent.

Nevertheless, that is the incredible legal position proffered by the Examiner - that the case law imposes or endorses a "requirement" that no Federal Circuit court has ever mentioned or ruled on. More astonishingly, the Examiner argues that a "technology" requirement was "silently ruled on" and "silently approved of" by the courts.

Although the Examiner's position is quite clearly anathema to the American legal principle of *stare decisis*, it is fundamental to the Examiner's defense of the legal basis two-prong test in this appeal.

Whether a patent claim is directed to statutory subject matter under 35 U.S.C. § 101 is a question of law reviewed without deference. AT & T, 172 F.3d 1352, 1355, (Fed. Cir. 1999). The Examiner does not provide any hint of a rationale as to why the Federal Circuit, reviewing *de novo* an issue of statutory subject matter, would fail even to mention all of the requirements relevant to that inquiry. The discrepancy becomes even more glaring given the thorough treatment given to Section 101 by State Street Bank and AT & T in particular.

For the record, Appellants note that Alappat makes no mention of a "two prong" test related to the "technological arts," the "technological arts," a "technology" requirement, Toma, or Musgrave. Arrhythmia makes no mention of a "two prong" test related to the "technological arts," the "technological arts," a "technology" requirement, or Musgrave. Toma is cited solely for the proposition that it held that using a digital computer to translate technical languages was not an algorithm. Arrhythmia 958 F.2d 1053, 1063. State Street Bank makes no mention of a "two prong" test related to the "technological arts," the "technological arts," a "technology" requirement, Toma, or Musgrave. AT & T makes no mention of a "two prong" test related to the "technological arts," the "technological arts," a "technology" requirement, or Toma. AT &

T only mentions Musgrave as an example of those CCPA decisions that announced "more expansive principles formulated with computer technology in mind." 172 F.3d 1352, 1356.

The Examiner concedes that State Street Bank and AT & T "never addressed" the purported "technological art" test or prong. [Examiner's Answer, page 6 ("The decision in State Street Bank.... never addressed this prong of the test."); page 7 ("Again, AT & T never addressed the second part of the analysis, i.e., the 'technological arts' test....")].

The Examiner argues that the issue was never addressed because in AT & T the court "recognized that the claims require the use of switches and computers." [Examiner's Answer, page 7]. The Examiner argues that the issue was never addressed in State Street Bank "because the invention in State Street...was already determined to be within the technological arts under the Toma test." [Examiner's Answer, page 7]. The Examiner further asserts: "In Alappat, the claimed invention was for a machine that achieved certain results and was therefore, already considered to involve the technological arts." [Examiner's Answer, page 6].

The Examiner has no legal grounds for making these interpretations.

The Examiner concludes that "the claims analyzed in AT & T [and in Alappat] clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue." [Examiner's Answer, page 9 (emphasis added)]. With respect to State Street Bank and Arrhythmia, the Examiner also concludes that the respective claims discussed "clearly involved the technological arts, and therefore whether or not the claimed invention involved the technological arts was not an issue" but does not even attempt to suggest that the courts recognized this. [Examiner's Answer, pages 6, 8, and 9]. Clearly, then, the Examiner is the only one of record to have made this determination.

In summary, the Examiner's purported legal basis for a new "technology" requirement rests on the startling and indefensible propositions that:

(i)   a legal issue "never addressed" in State Street Bank was nonetheless "clearly involved" and "already determined" by the Examiner

(ii)   a legal issue never even mentioned in <u>Arrhythmia</u> was nonetheless "clearly involved" as determined <u>by the Examiner,</u>

(iii)   a legal issue "never addressed" was nonetheless "clearly involved" and "recognized" by the court in <u>AT & T</u>, and

(iv)   a legal issue never even mentioned was nonetheless "already considered" and "recognized" by the court in <u>Alappat</u>. [Examiner's Answer, pages 6-9].

The Examiner thus proposes that a legal issue is not really an issue when the answer to the issue is clear—even if that issue is supposedly critical to determining whether something is statutory subject matter (e.g., as part of a purported two-prong test). In other words, the Examiner is proposing that the respective judges would not have wasted <u>any</u> time or words on this purportedly critical requirement.

The Examiner implies that the "technology" requirement itself was too obvious to mention at all, and that its satisfaction was too obvious to merit any discussion at all.

Appellants and the Examiner agree that the Federal Circuit has never addressed the "technological arts" or any "technology" requirement in any of the decisions that deal with Section 101, many of which are groundbreaking and redefined the legal analysis under Section 101. Nonetheless, the Examiner also implies that despite its silence, the Federal Circuit has tacitly endorsed a "technological arts" requirement that is separate from and as necessary as the Federal Circuit's UCT result test.

Appellants respectfully note that the <u>State Street Bank</u> and <u>AT & T</u> courts discussed the requirements for patentable subject matter in detail and at some length. <u>State Street Bank</u> in particular is universally regarded as redefining the Section 101 inquiry. See, e.g., Christopher L. Ogden, "Patentability of Algorithms After State Street Bank: The Death of the Physicality Requirement," 83 J. Pat. & Trademark Off. Soc'y 491 (noting that State Street Bank, along with the later supporting decision <u>AT & T</u>, "marks a departure from the line of Supreme Court and Federal Circuit cases beginning with <u>Gottschalk v. Benson</u>, modified by <u>Diamond v. Diehr</u>,...and expanded upon by the Federal Circuit decision <u>In re Alappat</u>."); William T. Ellis & Aaron Chatterjee, <u>"State Street" Sets Seismic Precedent</u>, NAT'L L.J., Sept. 21, 1998, at B13.

The Examiner makes much of the fact that the invention in <u>State Street Bank</u> was claimed as a data processing system comprising means for performing various steps. [Examiner's Answer, pages 7, 8]. Although the algorithm was claimed as a system, the court stated that "for the purposes of a § 101 analysis, it is of little relevance whether [the claim] is directed to a 'machine' or a 'process.'" <u>State Street Bank</u>, 149 F.3d at 1372. Which of the four enumerated categories of patentable subject matter a claim is directed to is of little relevance for the purposes of § 101 analysis—the focus instead is properly "on the essential characteristics of the subject matter, in particular, its practical utility." <u>State Street Bank</u>, 149 F.3d at 1372, 1375. Thus, contrary to the Examiner's assertion, so long as the claimed invention produced "a useful, concrete and tangible result," the particular statutory class to which the patentee chooses to direct the recited functionality was irrelevant.

The scope of the inquiry under Section 101 and the principles applied are the "same regardless of the form – machine or process – in which a particular claim is drafted." <u>AT &</u>, 172 F.3d at 1357-58 (citing with approval <u>In re Alappat</u>, 33 F.3d 1526, 1581 (Fed. Cir. 1994) (Rader, J., concurring) ("Judge Rich, with whom I fully concur, reads Alappat's application as claiming a machine. In fact, whether the invention is a process or a machine is irrelevant. The language of the Patent Act itself, as well as Supreme Court rulings, clarifies that Alappat's invention fits comfortably within 35 U.S.C. § 101 whether viewed as a process or a machine.")).

The Court in <u>State Street Bank</u> concluded that "after <u>Diehr</u> and <u>Alappat</u>, the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it non-statutory subject matter, unless, of course, its operation does not produce a 'useful, concrete and tangible result.'" <u>State Street Bank</u>, 149 F.3d 1374.

It must be noted that the Court <u>did not add</u>: "or unless, of course, if it is not in the technological arts or does not recite technology." It is inconceivable that in discussing the very reasons why <u>Diehr</u> and <u>Alappat</u> were patentable and outlining the inquiry that is the "ultimate

issue" (whether the claimed invention as a whole is drawn to statutory subject matter) the Court in that discussion would have neglected to mention an additional "technology" requirement.

It is highly unlikely that the inventions at issue in Diehr and Alappat clearly were deemed statutory subject matter because the Court silently considered some "technology" requirement to be satisfied and also because the Court found they were each directed to a practical application, as the Examiner asserts. To the contrary, the Court's discussion in State Street Bank intimates that had the Diehr and Alappat inventions involved only the manipulation of numbers, they would only be rendered non-statutory subject matter if they had failed to produce a "useful, concrete and tangible result."

It appears highly unusual that both the State Street Bank and AT & T decisions would fail completely to mention a requirement of the proper legal test (and even more unusual not to mention a "requirement" allegedly springing from the U.S. Constitution). [Examiner's Answer, page 5]. The Federal Circuit thoroughly reviewed the jurisprudence related to statutory subject matter and unambiguously overruled and redefined the law of statutory subject matter. The Federal Circuit could not have failed to mention any "requirement" in the new standard.

The Examiner must also concede that the record reflects that only the Examiner recognizes that the claims in State Street Bank, AT & T, Alappat, and Arrhythmia "clearly involved the technological arts." As admitted by the Examiner, no decision has ever mentioned, much less addressed, such a determination. It goes without saying that no claim has ever been rejected based on the purported "technology" requirement.

The Examiner proposes a rationale for why the courts never addressed the issue: the issue had been silently considered and silently resolved. This is at odds with the very foundation of the American legal system and *stare decisis*.

The Examiner, however, does not feel constrained by the actual opinions and analyses of the cases—i.e. by what was actually addressed and decided. Operating in a legal vacuum, the Examiner apparently feels free to repackage the courts' analyses, and to hypothesize as to

what tests, issues, and "requirements" the court might have silently considered yet "never addressed."

The Examiner, therefore, is merely theorizing how the Examiner might have employed his two-prong test in light of the facts of each case.

There are innumerable issues that the court did not address in State Street Bank or AT & T. Contrary to the Examiner's new argument, however, a court's silence on any number of issues cannot be interpreted as the court's consideration of any such issues, much less a particular finding related to any one of those issues. By the Examiner's logic, when analyzing a court's opinion, that court's failure even to mention the existence of one or more issues or purported "prongs" nonetheless may be interpreted in legal argument as supporting: (i) the existence of a two-, three-, or ten-prong test that includes any number of issues not actually discussed; (ii) the court's consideration of a particular unmentioned "prong"; and (iii) a particular finding by that court with respect to an unmentioned "prong." This rationale defies logic and jurisprudence.

Briefly, Appellants note the fact that the manner in which the Examiner's Section 101 two-prong test predated (by twenty years) the creation of the UCT result test in State Street Bank is not really explained. The implication is that the two-prong test that was purportedly "evident" in Toma actually relied on the now-discredited Freeman-Walter-Abele test as the second "prong," and not the UCT result test established in State Street Bank. [Examiner's Answer, page 6].

The Examiner further implies that the substitution of the new UCT result test for the Freeman-Walter-Abele test in the Examiner's Section 101 two-prong test took place immaculately and without comment at the very instant that the UCT result test came to life in State Street: "State Street abolished the Freeman-Walter-Abele test used in Toma." [Examiner's Answer, pages 6-7].

Applicants find it unusual to the point of absurdity that the Federal Circuit in State Street Bank, in light of such a dramatic change to a purported two-prong test, went without any mention of either a two-prong test, Toma, the "technological arts," or even the Examiner's

"technology" requirement, with which (according to the Examiner) the new UCT result test was suddenly paired for analysis of all statutory subject matter.

The failure of the Federal Circuit in these watershed decisions to mention the "technological arts" or the Examiner's "technology" requirement, is compelling evidence that such standards do not exist under current Federal Circuit law. Certainly, the Examiner's "technology" requirement cannot exist as a requirement separate from the "practical application" standard—i.e., whether the claimed invention has a useful, concrete, and tangible result.

1.1.7. A New Category of Unpatentable Subject Matter is Defined in a Manner Clearly Contrary to Law

The sole issue on appeal is whether the Examiner has performed the proper inquiry under 35 U.S.C. § 101. The Examiner's novel standard under Section § 101 defines a new category of unpatentable subject matter, and thus is clearly contrary to law.

There are only three exceptions to patentable subject matter. Specifically, any process, machine, manufacture, or composition of matter is statutory subject matter provided it is neither (i) an abstract idea, (ii) a law of nature nor (iii) a natural phenomena. See Diamond v. Chakrabarty, 447 U.S. 303, 309, 65 L. Ed. 2d 144, 100 S. Ct. 2204 (1980) (quoting S. Rep. No. 82-1979, at 5 (1952); H.R. Rep. No. 82-1923, at 6 (1952)); Diamond v. Diehr, 450 U.S. 175, 182, 185 (1981); MPEP § 2106, p. 2100-11 (8th ed. Rev. 1, Feb. 2003).

The U.S. Patent and Trademark Office also recognizes that there are only three exceptions to patentable subject matter:

> "The subject matter courts have found to be outside the four statutory categories
> of invention [process, machine, manufacture or composition of matter] is limited
> to abstract ideas, laws of nature and natural phenomena.

MPEP 2106, p. 2100-11 (8th Ed. Rev 1, Feb 2003) (emphasis added).

Thus, the U.S. Patent and Trademark Office officially interprets 35 U.S.C. § 101 as being circumscribed by only three exceptions. In re Portola Packaging, 110 F.3d 786, 788 (Fed. Cir. 1997) (The MPEP does not have the force and effect of law; however, it is entitled to

judicial notice as the agency's official interpretation of statutes and regulations, provided it is not in conflict with the statutes and regulations).

To the extent that it defines a category of subject matter that is unpatentable, beyond the only three recognized exceptions to patentable subject matter, the Examiner's Section 101 two-prong test is at odds with both the courts' and the PTO's interpretation of Section 101. Accordingly, the test is improper and the rejection should be reversed.

1.1.8. The Examiner Imposes an Improper Requirement to Recite "Technology," a "Component," or a "Physical Transformation"

The Examiner's "technology" requirement is nothing less than a requirement to recite a "computer," "component," "physical transformation," or other "technology." The requirement is contrary to law and cannot be required to render a claimed process statutory, particularly where that process, like Claim **98**, is already directed to a practical application—i.e., produces a useful, concrete, and tangible result.

The reciting of a computer or other "component" cannot be required to render a claimed process statutory. The reciting of physical limitations may be helpful, but are not necessary to render a claim statutory. AT & T Corp., 172 F.3d at 1359 ("Whatever may be left of the earlier test, if anything, this type of physical limitations analysis seems of little value...."). Even where a claim incorporates a mathematical algorithm, in contrast to focusing on a physical limitations inquiry, the proper inquiry "focuses on whether the mathematical algorithm is applied in a practical manner to produce a useful result." AT & T Corp., 172 F.3d at 1359-60.

It is a misunderstanding of Federal Circuit case law to contend that process claims lacking physical limitations are not patentable subject matter. "Since the claims at issue in this case are directed to a process in the first instance, a structural inquiry is unnecessary." AT & T Corp., 172 F.3d at 1359. Further, it is well settled that one need not claim in a patent every device required to enable the invention to be used. See, e.g., Asyst Technologies, Inc. v. Empak, Inc., 268 F.3d 1364 (Fed. Cir. 2001).

The Examiner's type of analysis may derive from a prior test for statutory subject matter which has been discredited. AT & T Corp., 172 F.3d at 1359 ("Whatever may be left of the earlier test, if anything, this type of physical limitations analysis seems of little value ...") This type of physical limitations analysis is of little value in the Section 101 analysis because "the mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, would not render it non-statutory subject matter, unless, of course, its operation does not produce a 'useful, concrete and tangible result.'" AT & T Corp., 172 F.3d at 1359.

Appellants' understand that the rejections of both Claims **98 and 108** (except where noted) for failure to satisfy the Examiner's "technology" requirement are based on the following additional findings by the Examiner first made of record in the Examiner's Answer:

> "[T]he claims are completely silent with regard to technology and is [sic] purely an abstract idea or process steps [sic] that are employed completely without the use of technology whatsoever. The claims are no more than a suggested idea that the purchase price in a sales transaction be discounted based on prior history with the customer." [Examiner's Answer, page 9].

Thus, the Examiner expressly concedes that Claims **98 and 108** are rejected for constituting only a "purely abstract idea" or "no more than a suggested idea." As the claims are admittedly directed to "practical applications," i.e., they produce useful, concrete and tangible results, the Examiner's analysis under the Examiner's Section 101 two-prong test reaches the impossible conclusion, discussed above, that the claims are only disembodied, abstract ideas.

The Examiner also expressly concedes that the Examiner's Section 101 two-prong test in fact demands that a particular "component" or "use of technology" be expressly recited in a claimed process.

The Examiner continues: "The claims are completely devoid of any means to carry out a process implementing the idea of exchanging an item based on a discount." [Examiner's Answer, pages 9-10 (presumably referring only to Claim **108**, which alone recites a step of *exchanging*)]. The Examiner further notes: There is no "technology claimed that would be used to transform the data." [Examiner's Answer, page 10, 11].

The Examiner thus admits that the Examiner's novel "technology" requirement would require, in defiance of current case law, that Appellants claim a particular "means to carry out a process" or "technology" for providing a physical transformation of data.

There is no requirement that Appellants recite any particular means by which any step may be carried out. A claim does not have be "a self-contained explanation of every step. That is not the role of claims. The purpose of claims is not to explain the technology or how it works, but to state the legal boundaries of the patent grant." S3 Inc. v. nVIDIA Corp., 259 F.3d 1364, 1369 (Fed. Cir. 2001). Accordingly, there is no requirement that a claim recite any "component," "computer," or "technology" by which it may be carried out, so long as, in accordance with Section 112, one having ordinary skill would be able to make or use the claimed invention in light of the disclosure and the claim itself, when read in light of the Specification, particularly points out and claims, with only a reasonable degree of precision, that which Appellants regard as their invention. No enablement or indefiniteness rejection is pending against the rejected claims, and Appellants have never stated that they consider their invention to be anything other than is recited in the rejected claims.

Even where a claim incorporates a mathematical algorithm, in stark contrast to focusing on a physical limitations inquiry (and thus in stark contrast to what is required by the Examiner's Section 101 two-prong test), the proper inquiry under Section 101 "focuses on whether the mathematical algorithm is applied in a practical manner to produce a useful result." AT & T, 172 F.3d at 1359-60. Accordingly, the type of physical limitations analysis required under the Examiner's "technology" requirement must be of little value in the Section 101 analysis.

The Examiner further finds that "there [is no] change in the characteristics of the item sold" and refers to the fact that "there does not appear to be any physical transformation of data." [Examiner's Answer, pages 10, 11]. There is no requirement that data or a characteristic of an item (or any substance) has to change or be transformed in accordance with a claimed process. Physical transformation by a claimed process "is not an invariable requirement, but merely one example of how a mathematical algorithm may bring about a useful application." AT & T, 172 F.3d at 1357. See also, Diehr, 450 U.S. 175, 192 (1981) (the "e.g." signal denotes that physical transformation is an example, not an exclusive requirement for satisfying § 101); Arrhythmia, 958 F.2d 1053, 1060, (Fed. Cir. 1992) (the transformation simply confirmed that Arrhythmia's method claims satisfied § 101 because the method produced a number which had specific meaning - a useful, concrete, tangible result - not a mathematical abstraction).

In other words, contrary to the Examiner's assertion, a claim that recites an algorithm does not require a "technological" limitation or any other type of physical limitation to be deemed statutory.

1.1.9. Additional Findings Are Not Grounds for Rejection Under Section 101

The Examiner further finds that "there is [no] efficiency in the computation of a price by using technology. [Examiner's Answer, page 10]. There is no such requirement that a method step, even one involving computation of a value or price, must use technology or establish improved efficiency of its computation. The Examiner does not indicate any authority for this finding.

At pages 10 – 11 of the Examiner's Answer, the Examiner makes a series of comments about how the discounts are determined in Claims **98 and 108**. The Examiner finds that the determined first and second discounts are "unrelated" [Examiner's Answer, page 10]. The significance of this finding is not clear. There is no requirement that two determined discounts need to be related to one another.

The Examiner's statements regarding how "the second discount appears to be an arbitrary abstract thing and not a discrete value" and "the value of the second discount appears

to be arbitrarily set by some other means (possibly a human) and not a result of an algorithm performed by a computer or processor" are confusing. [Examiner's Answer, page 11].

The Examiner appears to find it significant that "the second discount appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor...." [Examiner's Answer, page 11]. The reason is not clear to Appellants. In particular because the Examiner appears to be focusing on the "transformation of data" and refers to "discrete" values, the Examiner's language seems to echo a discussion in State Street Bank: "Today we hold that the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application, because it produces a 'useful, concrete and tangible result....'" 149 F.3d at 1373.

If the Examiner is intimating that State Street Bank supports the Examiner's "technology" requirement by requiring the "transformation of data," or the performance of an algorithm by a computer, Applicants disagree with any such interpretation of State Street Bank. To the contrary, State Street Bank authoritatively holds that "to be patentable an algorithm must be applied in a 'useful' way"—nothing else is required. 149 F.3d at 1373.

Appellants are not aware of any requirement in law that a value of a determined discount must be "directly correlated" to a particular parameter in order for a claim to be statutory subject matter. The Examiner does not indicate any legal basis for such a requirement.

Appellants are not aware of any requirement in law that a "value" of a determined discount must result from an algorithm performed by a computer or processor in order for a claim to be statutory subject matter. The Examiner does not indicate any legal basis for such a requirement. Further, neither of Claims **98 and 108** recites a "value." If the Examiner is objecting because a "value" is not recited, no legal basis for such a requirement has been provided.

The Examiner might be saying that the claimed step of *determining a second discount* renders the claim an abstract idea. If the Examiner is intimating, for the first time, that the

claims do not produce a useful, concrete and tangible result under <u>State Street Bank</u> because they do not produce "discrete" values, then the Examiner has clearly contemplated a new ground of rejection.

If so, this also directly contradicts other findings by the Examiner. For example, the Examiner and Appellants are in agreement that Claim **98** produces a useful, concrete, and tangible result: "With respect to claims 98 and 108, applicant [sic] asserts that the claim has a useful, concrete and tangible result. Examiner agrees with this assertion...." [Final Office Action mailed 12.30.02, page 2]. In support of the finding of a useful, concrete, and tangible result, Examiner has also asserted: "the claimed invention [sic] produces discounts (i.e., repeatable)...." [Examiner's Answer, page 4; Final Office Action mailed December 30, 2002, page 4].

The Examiner has also failed to explain how an invention that produces a useful, concrete, and tangible result (at least by *determining a discount*), and is thus limited to a practical application, can still suffer (in some way related to patentability) from being "abstract," "not discrete," and "arbitrary."

Further, the Examiner's new findings provide no basis at all for a rejection under Section 101. "A step requiring the exercise of subjective judgment without restriction might be objectionable as rendering a claim indefinite, but this would provide no statutory basis for a rejection under 35 USC 101." <u>In re Musgrave</u>, 57 CCPA 1352, 1367 (CCPA 1970).

The Examiner might be saying that the claimed step of *determining a second discount* is indefinite, not enabled, and / or overbroad. For instance, the Examiner complains that the value of a second discount is not explicitly set forth in the claim as being determined by a computer, and that such a value might be "arbitrarily set by some other means (possibly a human)."

"Whether the patent's claims are too broad to be patentable is not to be judged under § 101, but rather under §§ 102, 103 and 112." <u>State Street Bank</u>, 149 F.3d at 1377.

Of course, none of the pending claims is currently rejected for indefiniteness, lack of novelty, obviousness, or lack of enablement. Any such a rejection would be a new grounds for rejection.

Appellants submit that the claims themselves do not have to enable the invention, but only must outline the bounds of the scope of protection sought to be patented with a reasonable degree of clarity.

Even if the Examiner is stating that the scope of any claim is broad, breadth is not to be equated with indefiniteness. In re Miller, 58 C.C.P.A. 1182, 1187 (CCPA 1971). Accordingly, merely because the claim may encompass embodiments in which one or more steps may be performed by a human or "some other means" does not render the claim indefinite.

The Examiner presents a new argument that the claims are not statutory subject matter based on a failure to satisfy requirements set forth in the MPEP for "a computer-related process." In support, the Examiner refers specifically to MPEP 2106 (IV)(B)(2)(b) "Statutory Subject Matter," which is a sub-section of MPEP 2106 "Patentable Subject Matter – Computer-Related Inventions" (a.k.a. Examination Guidelines for Computer-Related Inventions ("Guidelines")). [Examiner's Answer, page 10].

The Examiner has thus further confused the record by applying, for the first time, examination guidelines indicated as being for computer-related inventions. For instance, the Examiner's Answer also includes a statement to the effect that the Examiner does not believe that the scope of Claims **98 and 108** is such as to implicate the use of devices such as computers or data processing devices in some embodiments. [Examiner's Answer, page 10]. In light of these contradictory characterizations of the claimed subject matter, it is unclear whether the Examiner actually believes that the claimed methods may be related at all to devices such as computers.

The Examiner asserts: "To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application with the technological arts. See Diamond v. Diehr, 450 U.S. at 183-184 (quoting Cochrane v. Deener, 94 U.S. 780, 787-788 (1877))." [Examiner's Answer, page 10].

To the extent that (A) and / or (B) vary from the holdings of <u>State Street Bank</u> or <u>AT &</u>
<u>T</u>, or impose any requirements other than that (i) a claimed invention have a practical
application—i.e., produce a "useful, concrete, tangible result" and (ii) not fall within any
judicially-created exception, Appellants submit that the purported requirements (A) and (B)
have no basis in law.

Appellants note that, contrary to what is implied by the Examiner, neither <u>Diehr</u> nor
<u>Cochrane</u> names the "technological arts" or discusses any requirement that a claimed invention
be "within the technological arts."

1.1.10. <u>No "Technology" Requirement Was Established in Toma</u>

The Examiner's reliance on <u>In re Toma</u>, 575 F.2d 872 (CCPA 1978) as establishing
either (i) a "technology" requirement or (ii) a two-prong test is inappropriate and contrary to
law. [See, Examiner's Answer, page 6]. <u>Toma</u> in fact established neither.

The Court of Customs and Patent Appeals (CCPA) in <u>Toma</u> discussed an expansive
principle (a "'technological' or 'useful' arts inquiry") adopted (and eventually abandoned) by
the CCPA during the 1970s for dealing with some types of inventions, particularly computer-
related inventions. According to the principle, if a claimed process was in "the technological or
useful arts," the process was directed to statutory subject matter (e.g., regardless of whether it
included any "mental steps"). <u>Toma</u>, 575 F.2d at 877-878.

Appellants will refer to this principle herein as the <u>Toma</u> "technological or useful arts
inquiry."

The Examiner insists that the discussion in <u>Toma</u> related to this principle established a
"'technological arts' test" or a "<u>Toma</u> test" requiring that a claimed invention be "in the
technological arts" (or, more accurately, the Examiner reads <u>Toma</u> as requiring that a claimed
invention recite a "computer" or "technology"). [Examiner's Answer , pages 6, 7]. Appellants
dispute that <u>Toma</u> established any type of "test," much less a standard requiring any form of a
claim.

In fact, the Examiner's reliance on <u>Toma</u> as establishing any type of grounds for rejection related to whether an invention is "in the technological arts," or any requirement to recite "technology," is confounding. The <u>Toma</u> court itself states precisely the opposite conclusion.

The Examiner refers to the CCPA's discussion in <u>Toma</u> related to an examiner's "theory of rejection" that invoked the "technological arts." In <u>Toma</u>, the examiner had proposed a new "theory of rejection" that if the intended use of a computer-related invention was in a "liberal art" and the invention did not "enhance the internal operation of the digital computer," the claimed invention was not in the "technological" or "useful" arts and was therefore not statutory subject matter. <u>Toma</u>, 575 F.2d at 877.

In addressing the examiner's new "theory of rejection," the CCPA explicitly stated that the examiner had misapplied earlier case law: "[T]he examiner has taken language from the cited cases and attempted to apply that language in a different context. Musgrave, In re Benson, and McIlroy all involved data processing methods useful in a computer, but not expressly limited to use in a computer." <u>Toma</u>, 575 F.2d at 878.

It must be understood that the "technological or useful arts inquiry" was invoked in the cited cases, not to reject claimed processes, <u>but as grounds for allowing them, even though they were, as the <u>Toma</u> court found, "not expressly limited to use in a computer."</u> See, In re Musgrave, 431 F.2d 882 (CCPA 1970); In re Benson, 441 F.2d 682 (CCPA 1971), rev'd sub nom. Gottschalk v. Benson, 409 U.S. 63 (1972); In re McIlroy, 442 F.2d 1397 (CCPA 1971). Thus, neither the <u>Toma</u> court nor the cases cited by that examiner could be held as establishing any standard by which a process must be expressly limited to use in a computer, or to any other "technology" for that matter.

The <u>Toma</u> court also stated: "The language which the examiner has quoted was written in answer to 'mental steps' rejections and was not intended to create a generalized definition of statutory subject matter. Moreover, it was not intended to form a basis for a new § 101 rejection as the examiner apparently suggests. To the extent that this 'technological arts' rejection is before us, independent of the rejection based on Benson, it is also reversed." <u>Toma</u>,

575 F.2d 872, 878 (CCPA 1978). Toma court thus the "theory of rejection" predicated by reference to the "technological arts" to be without any basis in law.

The present Examiner insists, nonetheless, that merely because Toma named a "'technological' or 'useful' arts inquiry," the naming of that "inquiry" must have necessarily established a requirement that a claimed invention be "in the technological arts," and thereby established a new grounds for rejection. [Examiner's Answer, page 6 (citing Toma, 575 F.2d at 877, as establishing a "'technological arts' analysis")].

The present Examiner also implies that the only way a method claim can satisfy the "'technological' or 'useful' arts inquiry" is to claim "a method of operating a machine": "The court found that the claimed computer implemented process was within the 'technological art' because the claimed invention was an operation being performed by a computer within a computer [sic]. [Examiner's Answer, page 6; see Toma, 557 F.2d at 877 (finding that the claimed method "is a method of operating a machine")]. The Examiner refers to this "finding" by the Toma court as the "'technological arts' test" or the "Toma test." [Examiner's Answer, page 7].

These interpretations of Toma cannot be sustained in light of the plain statements in that opinion to the contrary. That the inquiry was named and was properly defined by the court (as indicated by the cited cases) as requiring consideration of the whole of the claimed subject matter, is beyond dispute. Toma, 575 F.2d 872, 877-78 (CCPA 1978); see also, Musgrave, 431 F.2d at 893.

That the inquiry was deemed irrelevant by the court to the claims at issue in Toma is also beyond dispute. That the court found the examiner had misappropriated the language of the inquiry by fabricating a "theory of rejection" based on a purportedly patentable distinction related to the "technological" versus the "liberal" arts is also beyond dispute. The court dismissed the notion that any legal basis for the "theory of rejection" existed. Further, the Toma court indicates that the "'technological' or 'useful' arts inquiry" was only of any particular use or interest in the context of a "mental steps" rejection when the claimed method

was merely "useful in a computer, but not expressly limited to use in a computer," and <u>had only</u> <u>ever been applied in order overcome such a rejection</u>.

In fact, contrary to the novel approach the Examiner has adopted here, there has never been any use of the "technological or useful arts inquiry" by the CCPA, before or after <u>Toma</u>, to reject any claim under Section 101.

As indicated by the Examiner, the court stated: "The 'technological' or 'useful' arts inquiry must focus on whether the claimed subject matter (a method of operating a machine to translate) is statutory," not on whether the product of the claimed subject matter is statutory, not on whether the prior art which the claimed subject matter purports to replace is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art. <u>Toma</u>, 575 F.2d at 877-78.

Despite the Examiner's reliance on this quote as establishing a "'technological arts' analysis," this brief comment in fact serves only as a reminder that it is the claimed subject matter alone that should be considered (as a whole) when a claim is reviewed for compliance with Section 101: "This was the law prior to Benson and was not changed by Benson." <u>Toma</u>, 575 F.2d at 878. The <u>Toma</u> court affirms that <u>Benson</u> did not change the law for two reasons: (i) because, as stated above, the only ground of rejection articulated by the Board was that the <u>Benson</u> holding rendered the claimed method unpatentable, and (ii) because the Examiner had relied upon <u>Benson</u> in creating the new "theory of rejection" premised on the "technological arts."

In fact, the comment merely echoes an earlier statement in the opinion: "Even if the only novel aspect of this invention were an algorithm, it is not proper to decide the question of statutory subject matter by focusing on less than all of the claimed invention." <u>Toma</u>, 575 F.2d at 876 (citing <u>In re Chatfield</u>, 545 F.2d 152 (CCPA 1976), cert. denied, 434 U.S. 875 (1977)).

Therefore, the <u>Toma</u> court's reference to a "technological or useful arts inquiry" was merely an alternative way of characterizing "the question of statutory subject matter."

Nothing in such a characterization, and nothing in the court's brief comment, however, even remotely suggests that "technology," a "machine," or a "computer" must be recited in a

method claim, as asserted by the Examiner. In other words, whatever the Toma court meant by the "technological or useful arts inquiry," there is no basis for the Examiner's novel interpretation that Toma requires a machine, "technology," or computer to be recited in a method claim, which clearly covers such embodiments disclosed and enabled in the accompanying specification.

The Examiner must concede that the discussion in Toma with respect to its "technological or useful arts inquiry" and the novel "theory of rejection" does not provide a legal basis for any grounds for rejection predicated upon a need for a claimed invention to be "in the technological arts," nor does it even hint at a legal basis for the Examiner's "technology" requirement.

The Examiner insists, however, that a "technology" requirement must be viable today merely because, as discussed below, the Examiner believes that claims deemed statutory subject matter in several recent Federal Circuit decisions would have satisfied such a standard had it actually been applied. Certainly, this theorizing by the Examiner as to purported standards silently considered and silently found satisfied is no evidence whatsoever that the "technological or useful arts inquiry" has survived, much less that it survives as a statutory requirement distinct and separate than from the Federal Circuit's ultimate "practical application" standard.

Finally, it must be stated that the "technological or useful arts inquiry" noted in Toma has nothing to do with the Examiner's "technology" requirement as it has been applied to the rejected claims. The Examiner's "technology" requirement is clearly a novel requirement that a claim must explicitly recite some type of "technology," "use of any technology," "structure or functionality to suggest that a computer performs the recited steps," "component," "data processing device," or "means to carry out a process." [See, e.g., Examiner's Answer, pages 3, 9]. In fact, as applied herein, the Examiner's "technology" requirement is nothing more than the "physical limitations" analysis that was the hallmark of the now-discredited Freeman-Walter-Abele test.

The only thing that the Examiner's "technology" requirement has in common with the discussion in <u>Toma</u> is the Examiner's adoption of the "technological arts" parlance in describing his novel approach to determining statutory subject matter. In summary, without regard for the dramatic changes in law that have characterized the remarkable evolution of Section 101 jurisprudence between <u>Toma</u> and <u>AT & T</u>, the Examiner has seized on a "technological arts" rubric abandoned more than twenty years ago, and from it hypothesized a requirement that, under current law, all claims must somehow recite "technology."

Thus, the "technological or useful arts inquiry" expressed in <u>Toma</u> could not and "it was not intended to form a basis for a new § 101 rejection as the examiner apparently suggests." <u>Toma</u>, 575 F.2d at 878.

If it could not form a basis for a new § 101 rejection nor be used to create a generalized definition of statutory subject matter then, it certainly cannot form the basis for a new § 101 rejection now.

1.1.11. No Two-Prong Test Was Established in Toma

There is no evidence that <u>Toma</u> established any two-prong test by merely invoking the "technological or useful arts inquiry" in light of the proposed "theory of rejection," either. The <u>Toma</u> court noted that the examiner's new "theory of rejection" had barely even been acknowledged by the Patent and Trademark Office (PTO) Board of Appeals (the Board). <u>Toma</u>, 575 F.2d at 877 ("The board's perfunctory treatment of this theory of rejection did not indicate approval or disapproval of it."). The Board's opinion in fact made no mention of the substance, much less any analysis of the examiner's ill-fated "theory of rejection," other than to note that (prudently) Toma had responded to it in his appeal brief. Opinion of the Board of Appeals, April 29, 1976, p. 188.

Thus, as noted by the <u>Toma</u> court: "The single ground of rejection articulated by the board is that the Benson holding renders the method unpatentable." <u>Toma</u>, 575 F.2d at 877.

In addition, the brief submitted by the Commissioner for the Patent and Trademark Office to the CCPA admitted that whether an invention was within the technological arts "<u>is</u>

immaterial. The only real question at issue is whether appellant's claims are directed to statutory subject matter." Brief for the Commissioner of the Patents and Trademarks, Patent Appeal No. 77-554, In the Matter of the Application of Peter P. Toma, pages 19-20 (emphasis added). Accordingly, the PTO itself dropped the examiner's "theory of rejection" based on the "technological arts" as an issue before the CCPA.

It is not surprising, therefore, that the CCPA was somewhat cavalier about whether the new "theory of rejection" was even an issue in dispute that needed to be adjudicated: "The examiner...appears to have rejected the claims because a computerized method of translating is not, the examiner submitted, in the 'technological arts'"; "To the extent that this 'technological arts' rejection is before us, independent of the rejection based on Benson, it is also reversed." Toma, 575 F.2d at 877, 878 (emphasis added).

Clearly, therefore, with respect to a "theory of rejection" explicitly abandoned by the PTO as being irrelevant, and without any actual issue in dispute, the discussion in Toma regarding the "technological or useful arts inquiry" cannot support any assertion by the Examiner that Toma thereby established a "two prong" test for determining statutory subject matter. [See, 20 Am. Jur. 2d COURTS § 153 ("Decision on legal point": "For a case to be stare decisis on a particular point of law, that issue must have been raised in the action decided by the court, and its decision made part of the opinion of the case; accordingly, a case is not binding precedent on a point of law where the holding is only implicit or assumed in the decision but is not announced."; 20 Am. Jur. 2d COURTS § 157 ("Lack of argument on point": "The stare decisis effect of a case is substantially diminished by the fact that the legal point involved in it was decided without argument, or with only little argument."); 20 Am. Jur. 2d COURTS § 158 ("[t]he stare decisis effect of a case is strong where numerous precedents stand for the same principle of law. Although a rule of law announced or applied only in a single precedent falls within the scope of the policy of stare decisis, its stare decisis effect is weaker.")].

1.1.12. Ex parte Bowman did not acknowledge a "two prong" test or "dichotomy" in what is required by Section 101

The Examiner states that the non-precedential decision in Ex parte Bowman (BPAI 2000) recognized the Examiner's Section 101 two-prong test. It did not.

The decision in <u>Ex parte Bowman</u>, 61 USPQ2d 1669 (BPAI 2001) was indicated by the Board of Patent Appeals and Interferences as not being written for publication and not binding precedent of the board. [See Editor's note].

Contrary to the Examiner's assertion, the Board in <u>Ex Parte Bowman</u> did not "recently acknowledge[]" any "dichotomy" in the law regarding Section 101 and statutory subject matter. The majority opinion includes no mention at all of a two-prong test, <u>State Street Bank</u>, <u>AT & T</u>, or a useful, concrete and tangible result test for determining statutory subject matter.

1.1.13. The U.S. Constitution does not Require that a Granted Patent Recite "Technology"

The U.S. Constitution Article I, § 8, clause 8, states: "Congress shall have Power...To promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries" (hereinafter the Patent Clause).

According to the Examiner, from the Patent Clause follows "a fundamental premise...that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for 'inventions' that promote the progress of 'science and the useful arts'." [Examiner's Answer, page 5].

The Examiner's "fundamental premise" is incorrect. The Patent Clause generally authorizes Congress to secure an exclusive right to the discoveries of inventors—the clause itself does not dictate that any particular discovery must "promote the progress of...the useful arts."

In fact, according to the Supreme Court: "As we read the Framers instruction, [Art I, sec. 8, cl. 8] empowers Congress to determine the intellectual property regimes that, overall, in that body's judgment, will serve the ends of the Clause. See <u>Graham</u>, 383 U. S., at 6 (Congress

may 'implement the stated purpose of the Framers by selecting the policy which *in its judgment* best effectuates the constitutional aim.' (emphasis added))." Eldred v. Ashcroft, 123 S.Ct. 769, 790 (2003).

The Constitution thus authorizes Congress to establish a patent system to meet the purpose of the Patent Clause. It does not dictate that any right secured under that patent system must be to a discovery that promotes the progress of the "useful arts" (whatever they may be), much less the "technological arts" (whatever they may be).

To the extent that the Examiner is complaining that Section 101 would allow grant of a patent without such a "technology" requirement, or for some types of subject matter that the Examiner believes is bad policy, the Examiner has no authority to second-guess the wisdom of Congress. See, e.g., Eldred v. Ashcroft, 123 S.Ct. at 790.

Nor, of course, may such a complaint form a basis for rejection under Section 101.

The court in In re Foster, 58 C.C.P.A. 1001, 1004 (CCPA 1971), stated: "All that is necessary, in our view, to make a sequence of operational steps a statutory 'process' within 35 U.S.C. 101 is that it be in the technological arts so as to be in consonance with the Constitutional purpose to promote the progress of 'useful arts'" (quoting In re Musgrave, 431 F.2d 882, 893 (CCPA 1970) (citing the Patent Clause)).

Even to the extent that Musgrave and Foster referred to the Patent Clause in defining a statutory process, one would go too far in interpreting either case as requiring that a claimed invention recite any "technology" per the Constitution. To the contrary, Judge Baldwin felt the CCPA had adopted too expansive a principle in Musgrave: "No limitations are placed upon this holding.... "[T]he majority now says, in effect, that one no longer need disclose apparatus for carrying out his process." In re Musgrave, 431 F.2d 882, 894 (CCPA 1970) (Baldwin, J., concurring). Judge Baldwin was also concerned that the principle articulated in Musgrave was so liberal as find statutory "a process performable both within and without the technological arts." 431 F.2d at 896.

Further, the CCPA in Toma, the case relied upon by the Examiner as establishing the Examiner's "technology" requirement, recognized that the claimed invention in Musgrave was

for a "data processing method useful in a computer, but not expressly limited to use in a computer." Toma, 575 F.2d 872, 878 (CCPA 1978). Accordingly, contrary to the Examiner's assertion, none of the Patent Clause, Musgrave, Foster, or Toma, would require as a "fundamental premise" that a claim be expressly limited to any particular technology.

1.1.14. The Examiner has failed to rebut Appellants' argument that whether one or more steps of the claimed invention "can be performed in the mind of the user" is irrelevant to a determination of statutory subject matter under Section 101

The Examiner has consistently maintained a general requirement that a claim must not cover an embodiment, which can be performed mentally. [Examiner's Answer, page 3; Final Office Action mailed 12.30.02, pages 2, 3; Non-Final Office Action mailed 10.23.02, page 3]. The Examiner has never responded to Appellants' evidence that this test is not a requirement, and more importantly is not a substitute for the proper legal inquiry under Section 101. [See, Appeal Brief, pages 15-17].

In fact, in one of the cases relied upon by the Examiner as equating "technological arts" with the "useful arts," In re Musgrave, 431 F.2d 882 (C.C.P.A. 1970), the CCPA held that the mere fact that some or all of the steps of a method "may be carried out in or with the aid of the human mind" does not render a sequence of operational steps non-statutory under 35 U.S.C. §101. 431 F.2d at 893. Thus, the court in Musgrave rejected the Examiner's reasoning that the claims at issue were non-statutory under 35 U.S.C. §101 because they "include no physical steps but set forth merely a method for processing data which does not require any tangible device or apparatus to carry out the method and hence could be carried out mentally." Musgrave, 431 F.2d at 886. See also, In re Prater, 415 F.2d 1378, 56 C.C.P.A. 1376 (C.C.P.A. 1968) ("patent protection for a process disclosed as being a sequence or combination of steps, capable of performance without human intervention...is not precluded by the mere fact that the process could alternatively be carried out by mental steps.").

1.1.15. The Examiner has failed to rebut Appellants' argument that whether one or more steps of the claimed invention "can be performed...by

use of a pencil and paper" is irrelevant to a determination of statutory subject matter under Section 101

The Examiner has also consistently maintained a general requirement that a claim must not cover any embodiment that is performed by use of a pencil and paper. [Examiner's Answer, page 3; Final Office Action mailed 12.30.02, pages 2, 3; Non-Final Office Action mailed 10.23.02, page 3]. As consistently, the Examiner has never provided any authority in support of such a requirement. Appellants are unsure of the purported standard that has been applied in this instance. Nevertheless, this test is not a requirement, and more importantly is not a substitute for the proper legal inquiry under Section 101. [See, Appeal Brief, page 17].

Further, under the "technological or useful arts inquiry," as applied in In re Benson, the CCPA found that one claimed process "[r]ealistically has no practical use other than the more effective operation and utilization of a machine known as a digital computer." Nonetheless, the claim contained no reference to any apparatus and, the court recognized, could be performed "even manually" and with "any kind of writing implement and any kind of recording medium" including "pencil and paper." In re Benson, 441 F.2d 682, 687-688 (CCPA 1971), rev'd sub nom. Gottschalk v. Benson, 409 U.S. 63 (1972).

2.   GROUP II

GROUP II includes independent Claim **108.**

The rejection of the claims of GROUP II is flawed because the Examiner has not made a prima facie case of unpatentability of any claim of GROUP II.

Specifically, the Examiner has not shown that any claim of GROUP II can be deemed to be directed to non-statutory subject matter.

2.1.   No Prima Facie Showing that the Claim of GROUP II is Non-statutory

The Examiner has not provided a proper legal basis for rejecting the claim of GROUP II as non-statutory. Instead, the Examiner has proposed a novel legal test, which deems the Federal Circuit's "useful, concrete and tangible result" standard to be insufficient and incomplete.

2.1.1.   Appellants' Understanding of the Standard Used by the Examiner

The claim of GROUP II is rejected by the Examiner under 35 U.S.C. 101 "because the claimed invention is directed to non-statutory subject matter." [Examiner's Answer, page 2; Final Office Action mailed 12.30.02, page 3; Non-Final Office Action mailed 10.23.02, page 2]. Claim **108** is rejected under the same proposed "two-prong test" discussed above.

2.1.2.   Appellants' Understanding of Why Claim 108 Fails the Examiner's "Two-Prong Test"

It is Appellants' understanding, therefore, that the Examiner bases the rejection of Claim **108** solely on the asserted failure of the claimed invention to satisfy the first requirement of the Examiner's proposed "two-prong test." According to the Examiner: "For a process claim to pass muster [i.e., to be statutory subject matter], the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, claims 98 and 108

only recite an abstract idea." [Examiner's Answer, page 4; Final Office Action mailed 12.30.02, page 3; Non-Final Office Action mailed 10.23.02, page 3].

2.1.3. The Proper Legal Standard under Section 101: "Useful, Concrete and Tangible Result"

As discussed above, the proper legal test for the presence of statutory subject matter is only that a claimed process or apparatus produce a "useful, concrete and tangible result."

2.1.4. The Claim Meets the Definitive Standard for Statutory Subject Matter

As discussed above, the Examiner and Appellants both agree that Claim **108** produces a useful, concrete and tangible result. As Appellants and the Examiner agree that Claim **108** produces a useful, concrete and tangible result, and is therefore limited to a practical application, the rejection of Claim **108** for lack of statutory subject matter cannot stand. Claim **108** cannot be directed to merely an idea in the abstract, or fall within any other judicially-created exception to patentable subject matter.

The Examiner has never attempted to provide any rationale to explain this inconsistent and deeply flawed result of the application of the Examiner's "technology" requirement.

Briefly, Claim **108** includes the limitation of *determining a second discount based on whether the first difference is less than a predetermined minimum transaction period and whether the second difference is greater than a predetermined discount adjustment period.* As explained in Section 2.2 of the Appeal Brief and the Specification of the present application, this feature produces a useful, concrete and tangible result – a discount that may be used to influence a customer's behavior in ways desirable to a merchant.

In addition, the limitation of *exchanging at least one item for a payment amount that is based on the second discount* produces the useful, concrete and tangible result of facilitating a transaction for at least one item by applying the *determined second discount* to the payment amount.

The Examiner notes that "associating the second discount with the customer or applying the second discount to a transaction of the customer" are "useful, concrete and tangible results offered by the appellant [sic] [that] are not recited or even suggested in the claims being appealed." [Examiner's Answer, page 10].

As explained in the Appeal Brief and with reference to the Specification, the limitation *exchanging at least one item for a payment amount that is based on the second discount* may encompass such activities in some embodiments. Accordingly, Claim **108** may produce the useful, concrete, and tangible results suggested by Appellants.

Moreover, the scope of Claim **108** as presented encompasses a variety of specific implementations of the claimed process. Certain of these embodiments implicate the use of devices (such as computers or data processing devices) in the processes. These "device-based" species clearly fall within the broader generic definition of the claimed processes. Given that utility for a genus may be established through a recitation of utility of a species within that genus, a determination that the generically claimed process of Claim **108** lacks utility is clearly improper.

The Examiner further criticizes Appellants for stating "that the scope of claims 98 and 108, as present [sic], encompass a variety of specific implementations of the claimed process and that certain of these embodiments implicate the use of devices (such as computers or data processing devices) in the processes. Examiner strongly disagrees with this notion...." [Examiner's Answer, page 10]. Appellants do not understand the basis for the disagreement.

The Examiner must admit that the Specification relates various ways in which the claimed invention may be practiced, some of which involve or "implicate" the use of one or more devices (such as computers or data processing devices). Contrary to the Examiner's implication, Appellants in no way stated that Claim **108** is expressly limited to being carried out by a computer or processing device. Nonetheless, when read in light of the Specification and in light of their ordinary meaning, Claim **108** would reasonably suggest to one having ordinary skill in the art that a computer or data processing device could be used to perform one or more steps of the claimed processes.

For example, contrary to the Examiner's assertion that Claim **108** could not encompass such implementations, the Specification indicates that at least one specific implementation of the claimed embodiments could comprise a data processing system such as computer-equipped automatic data processing system including a central processing unit (CPU) and a data storage device and configured to communicate with POS terminals as well as to perform various functionality. [See, e.g., Specification, page 6, lines 26-36 and FIG. 3; page 9, line 14 to page 10, line 17 and FIG. 5].

2.1.5. The Examiner's Reasons Cannot Support a Rejection under Section 101

With the exception of the comment regarding failure of a means to provide for a process implementing exchange an item (directed only to Claim **108**), discussed above, the Examiner relies on the same reasons in rejecting Claim **108** as for Claim **98**. The Examiner's reasons for the rejection of Claim **108** are based on an incorrect legal standard, as discussed herein. Since Claim **108** satisfies the correct legal standard, the rejection should be reversed.

For all of the above reasons, the proper legal standard for statutory subject matter was not applied to Claim **108**, which is directed to statutory subject matter.

CONCLUSION

Thus, the Examiner's rejection of the pending claims is improper at least because the Examiner has not provided a proper legal basis for rejecting any claim as non-statutory. Therefore, Appellants respectfully request that the Examiner's rejections be reversed.
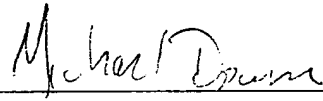
If any issues remain, or if there are any further suggestions for expediting allowance of the present application, please contact Michael Downs using the information provided below.

Appellants hereby request any extension of time that may be required to make this Appeal Brief timely. Please charge any fees that may be required for this paper, or credit any overpayment, to Deposit Account No. 50-0271.

Respectfully submitted,

March 22, 2004

Date

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Walker Digital, LLC
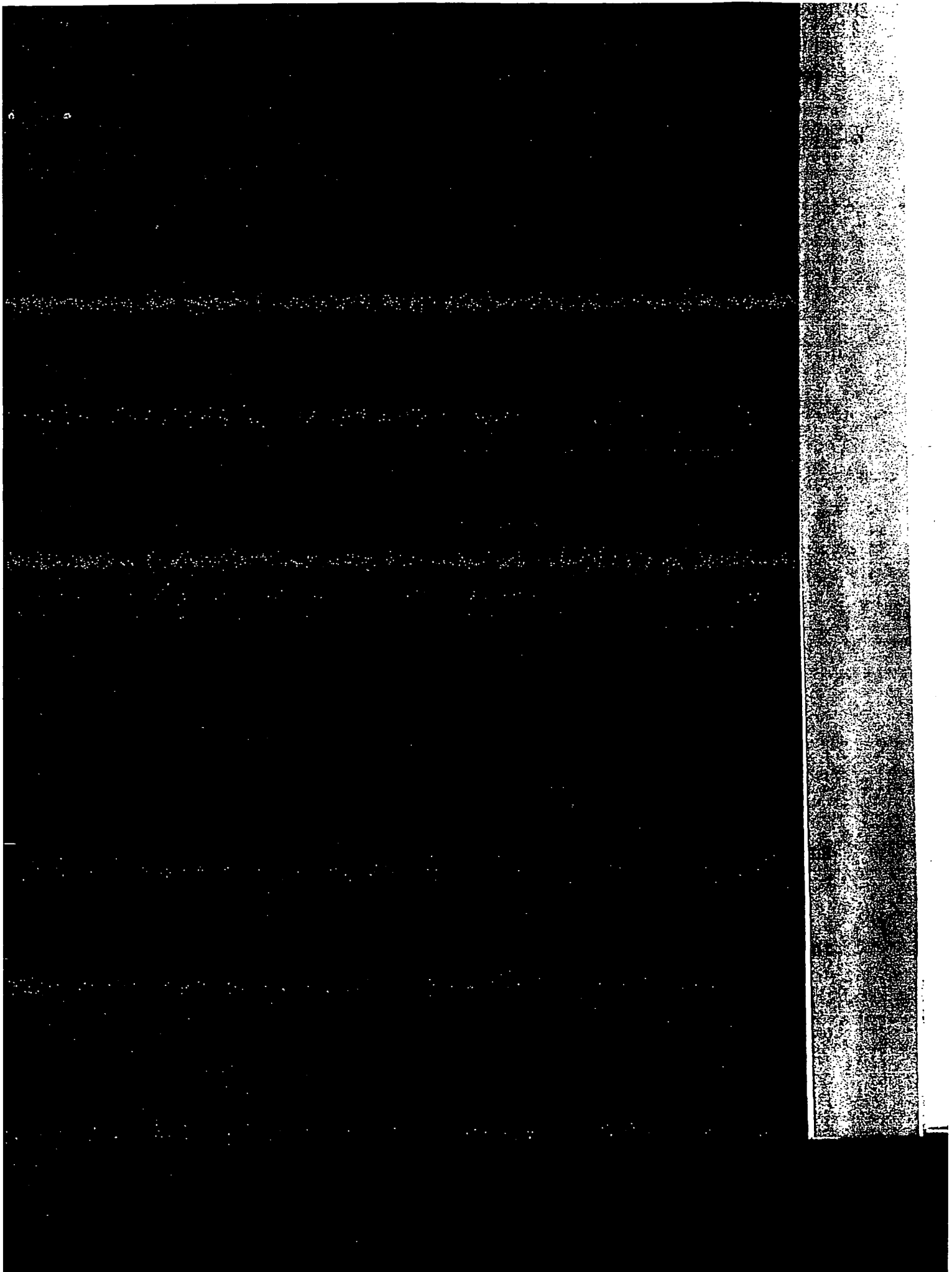mdowns@walkerdigital.com
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BRIEF FOR THE COMMISSIONER OF
PATENTS AND TRADEMARKS

UNITED STATES COURT OF CUSTOMS
AND PATENT APPEALS

PATENT APPEAL NO. 77-554

IN THE MATTER OF THE APPLICATION OF
PETER P. TOMA

METHOD USING A PROGRAMMED
DIGITAL COMPUTER SYSTEM FOR
TRANSLATION BETWEEN NATURAL
LANGUAGES

APPEAL FROM THE BOARD OF APPEALS

STATEMENT OF THE ISSUE

The issue on appeal is whether the
Board of Appeals was correct in affirming
the examiner's rejection of claims 1, 17,
32, 36, and 51 to 53[1] as being directed to
subject matter not patentable as a process
within the meaning of 35 U.S.C. 101.

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1. The Commissioner specifically disagrees
with appellant's statement of the issue (Br-1)

STATEMENT OF THE CASE

Except for the listing of which claims (f.n. 1, *supra*) are before the Court for review, the Commissioner generally agrees with appellant's statement of the case (Br-2-15). Concerning claims 2-13, 15, 16 18-24, 26, 28-31, 33-35, 40, 41, 43-50, and 54-56, 35 U.S.C. 142 unequivocally states that the appellant "shall file in the Patent and Trademark Office his reasons of appeal." Moreover, 35 U.S.C. 144 further states that this Court's "decision shall be confined to the points set forth in the reasons of appeal." Therefore, since appellant's reasons of appeal (R-402) do not mention these claims, they are not before this Court for review.

ARGUMENT

1. *Summary of the Argument*

Appellant's claims are directed to computer programs of the type proscribed by *Gottschalk v. Benson* (hereafter *Benson*), 409 U.S. 63, 175 USPQ 673 (1972). Appellant's claims are also directed to subject matter analogous to that proscribed in *In re Christensen*, 478 F.2d 1392, 178 USPQ 35 (CCPA 1973). Appellant's various attempts to show that his claims define statutory subject matter are not persuasive.

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1. con't. since claims 2-13, 15, 16, 18-24, 26, 28-31, 33-35, 40, 41, 43-50, and 54-56 are not included in appellant's reasons of appeal (R-402), and thus the rejection of these claims, which was also sustained by the Board, is apparently not before the Court for review.

2. *Appellant's Claims Are Directed to Computer Programs of the Type Proscribed by Benson.*

First of all, as noted by the Board of Appeals on reconsideration (R-214), in the period since its original decision herein (R-186), this Court has decided *In re Chatfield*, 545 F.2d 152; 191 USPQ 730 (CCPA 1976). While there are distinctions between this appeal and *Chatfield*, no discussion of this decision appears warranted at this time, inasmuch as a petition for writ of certiorari in *Chatfield* was filed on May 9, 1977.

The position of the Office tribunals, as to the applicability of *Benson* to appellant's claims, is set forth by the examiner (R-184) "* * * that *Benson* ruled out the patenting of all computer programs absent considered action by the Congress." This position is derived from the concluding two principal paragraphs of the *Benson* opinion, 175 USPQ at 677, which suggested that advocates for patents on software and computer program inventions should submit an appropriate proposal to Congress. In the interim, there can hardly be any warrant for granting patents on innovations which involve computer programming as the sole novelty. As the Supreme Court said in *Deepsouth Packing Co. Inc. v. Laitram Corp.*, 406 U.S. 518, 532; 173 USPQ 769, 774 (1972):

> It follows that we should not
> expand patent rights by over-
> ruling or modifying our prior
> cases construing the patent
> statutes, unless the argument
> for expansion of privilege is
> based on more than mere inference
> from *ambiguous* statutory language.
> We would require a clear and
> certain signal from Congress before
> approving the position of a
> litigant who, as respondent here,
> argues that the beachhead of
> privilege is wider and the area
> of public use narrower, than
> courts had previously thought.
> No such signal legitimizes
> respondent's position in this
> litigation. (emphasis added).

In similar manner, restraint is called for in this appeal since 35 U.S.C. 101 does not clearly include computer programs as proper statutory subject matter. Moreover, the Supreme Court in *Benson* has provided guidance in this area, and that guidance is clearly against the expansion of patent rights to embrace the privilege which appellant is requesting.

Turning specifically to *Benson*, it is submitted that the subject matter there involved is different from that herein, but only in the nature or type of information translated. *Benson's* program converted numerical information from the binary coded decimal form to pure binary form. Appellant's translation program, converts verbal information from one form (Russian) to another form (English). It is submitted that a conversion of binary coded decimal information to pure binary, in the board sense, is a form of translation, and thus, the basic aim of appellant's claimed inven-tion is quite similar to *Benson's*.

Moreover, the facts in the instant appeal are quite similar to those in *Benson* in many other respects. For instance, the Board has pointed out (R-188) "that appellant's cluster of programs are in effect a rule (or rules), that is, an algorithm (algorithms) designed for the translation of the text from one natural language to another natural language." Moreover, appellant had admitted that the only practical implementation of the claimed invention is in a digital computer (R-200-201). This is borne out by the very title of the invention (R-1), and the Appendices A-Z and AA-NN which have been filed with the Court as an exhibit showing the program listings of the actual embodiment of appellant's claimed invention (Br-4). Also, as noted by the Board (R-188), appellant has apparently admitted that the claimed subject matter of his invention is directed to a program, *per se*.

Taking claim 1 (Br-8) for example, the basic rule or program of appellant's invention may be paraphrased as follows:

1. Entering the source text in main memory,

2. Scanning and comparing each word of the source text with a dictionary,

   a. The dictionary having been previously stored in the memory,

   b. Each memory word including memory offset linkages to still another portion of the computer memory where grammar and translations are stored,

3. Analyzing complete sentences of the source text to provide the target text (i.e., obtain syntax),

    a. This step utilizes the memory offset linkages to obtain the target language translation, and

    b. This step also reorders the translation into proper target language sequence.

Thus, it is clear that an actual program is being claimed, even in claim 1, which is the broadest claim at issue. Therefore, it is submitted that the Board was correct in holding (R-211), that the claims at issue are "word pictures" of appellant's program.

There are other similarities to *Benson*. For instance, the preamble of claim 1 recites that the method is for the translation between source and target *natural* languages using a programmable digital computer. But what languages are natural to a digital computer? Certainly fundamental algorithmic and procedural languages such as FORTRAN, ALGOL, JOVIAL, and COBOL are natural to a digital computer. Also, time-sharing languages, such as QUIKTRAN, BASIC, and CAL; string and list processing languages such as SNOBOL, COMIT, LISP, SLIP and FORMAC; and simulation languages such as SIMSCRIPT, GPSS, and DYNAMO are all languages which are natural to a digital computer. Therefore, since it is axiomatic that unpatented claims must be given their broadest reasonable interpretation, it is submitted that appellant's claims are so abstract and sweeping as to

cover translations between all known and
unknown languages. Moreover, some of
these languages may be program languages
which are part and parcel of computer
programming. Thus, it is submitted that
the end use of appellant's invention may
be construed as broadly as the Supreme
Court did with the subject matter of
Benson.

Finally, it is clear that appellant's
claimed subject matter is not directed to
an analog computer, nor is the program
one for servicing a computer. Actually,
appellant's program uses the computer
rather than servicing it. Therefore,
none of the exceptions of *Benson* are ap-
plicable herein. In view of the above,
the following paraphrase of *Benson's*
nutshell rationale is thus clearly
applicable:

> The [computer program] involved
> here has no substantial practical
> application except in connection
> with a digital computer, which
> means that ***, [a] patent would
> wholly pre-empt the [computer
> program] and in practical effect
> would be a patent on the algorithm
> itself.

It should be further noted that this
Court, in its latest decision in the pro-
gramming area, has not stated that claims
to a computer program, *per se,* are
statutory. See *In re Deutsch,* 553 F.2d
689, 193 USPQ 645 (CCPA 1977) where the
Court stated:

8

> Nothing in the methods claimed
> by Deutsch preempts a mathematical
> formula, an algorithm, *or any
> specific computer program.*
> Assuming eventual issue of the
> claims on appeal, the formulae,
> algorithms, *and programs* disclosed
> in Deutsch's specification would
> be freely available to all and
> could be used for any purpose
> other than the operation of a
> system of plants or their equivalent,
> as spelled out in the appealed
> claims (emphasis added).

In summary, therefore, it is sub-
mitted that the proscription of *Benson*
should be construed broadly, and the
claims here on appeal fall within that
proscription.

> 3.   *Appellant's Claims Are Also
>   Directed to Subject Matter
>   Analogous to That Proscribed
>   in Christensen*

The position of the Office tribunals
in *Christensen* (178 USPQ at 36-37) was as
follows:

> * * * the prior art teaches all
> the claimed steps except that
> drawn to computing the porosity
> of a formation. The essence of
> the appellant's invention lies in
> using data already available to
> one of ordinary skill in the art
> to compute the values of a para-
> meter known to be of value in
> determining the geophysical properties
> of a formation * * * according to a

novel quadratic equation. Stated
otherwise, the appellant's point
of departure from the teachings
of the prior art lies in applying
his new formula to old data to
calculate values of a known
parameter. While this discovery
of the appellant may constitute
an important contribution to the
art of geophysical prospecting,
unless it falls within the four
statutory subjects matter of 35
U.S.C. 101 it cannot be protected
by the patent laws.

The position of the Office in *Christensen*
was affirmed by this Court wherein it was
held that:

Appellant here, in his supplemental
brief, contends that Benson did not
decide the issues of this case. Ap-
pellant states that his claims are
drawn explicitly to a method of
determining subsurface porosity in
situ, and that his invention is not
a computer program. It is clear that
the term, in situ, as used in appel-
lant's application and claims merely
means that formation porosity is
determined without removing core
samples for direct measurement. The
actual computation of subsurface
porosity is not made in the ground.
The measurement of density, compression
wave velocity, shear wave velocity and
bulk modulus of the subsurface forma-
tion, all known steps, merely precede
the mathematical computation of for-
mation porosity by solution of appellant's
novel equation. The in situ limitation

> in appellant's claims does not
> render Benson inapplicable. We
> believe that Benson must influ-
> ence our decision in the instant
> case. Appellant's arguments, that
> Benson does not fully deal with the
> breadth of §101 and does not
> suggest what view the Congress
> should take, do not render inappli-
> cable what the Supreme Court said
> in the quotation reproduced above
> (referring to the nutshell rationale
> of *Benson*).

It is submitted that an analogous situation is present in this appeal. Here, the claims at issue (f.n. 1, *supra*) were rejected by the Board (37 CFR 1.196(b), R-190-197) as being obvious over the publication to Oettinger (R-216) under 35 U.S.C. 103. In addition, the Board sustained (R-189-190 and 212) the rejection of all the claims as being directed to non-statutory subject matter under 35 U.S.C. 101, holding that there is an analogy between this case and *Christensen*. Therefore, it is now necessary to determine whether appellant's claims differ from the prior art disclosure of Oettinger solely by a computer program.

Appellant's claims (R-405-427) are directed to the automatic translation from one language (Russian) into another (English) (R-19). Appellant's basic program is shown by the flow chart of Figure 1(R-134).

Oettinger[2] is also directed to the step
by step procedure necessary for the pre-
paration of a program for automatic
translation of Russian to English (R-216)
and his program flow chart is shown in
Figure 36 (R-365). The two basic flow
charts bear a striking resemblance.
Appellant employs a sophisticated fourth
generation computing system (R-5), whereas
Oettinger employs the earlier Univac
computer (R-221).

Appellant's fourth generation computing
system has virtually unlimited storage
capacity in its high speed core memory
and its rapid access disk memory (R-6, 8,
14, & 21), whereas the main memory of the
Univac device of Oettinger is limited to
a capacity of 1000 words[3] (R-220) and
works with the relatively slow storage tapes.
Thus appellant's computing system has the
capacity to greatly enlarge the number of
routines attached to each word of his pro-
gram (R-8). Oettinger's programs cannot
be so elegant because of memory limitations
(R-344).

It is further noted that appellant's
main dictionary is established with para-
digmatic[4] set codes (R-26-27 & 38). This
same basic concept is employed in the dic-
tionary of Oettinger (R-226, 231-242, 310,
352 and 401).

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2. It is interesting to note, that Oettinger's
programmed translation is not listed as one of the
prior art failures by appellant (R-2-5).
3. Appellant's computing system has a storage
capacity of at least 14000 x 8 = 112,000 bits (R-14).
The storage capacity of the Univac is 1000 x 12 = 12,000
bits, where there are 12 bits to the word (R-220).
4. Paradigm is defined as "* * * 2a: an example
of a conjugation or declension showing a word in all
its inflectional forms b: a set of forms peculiar to
a verb, noun, pronoun, or adjective * * *." WEBSTER'S
THIRD NEW INTERNATIONAL DICTIONARY.

Turning now to the remaining features
of appellant's program, the following table
lists (side by side) the various features,
and the sections of Oettinger where corres-
pondence is found:

FUNCTIONAL FEATURES

Appellant	Oettinger
1. Automatic parsing (R-6)	1. Oettinger does not specifically use the term parsing, however, it appears clear that his classification of nouns, verbs, adjectives, etc., (R-257-258) is a form of parsing.
2. Syntactic analysis (R-6-7).	2. Oettinger recognizes that syntactic analysis is necessary for effective translation (R-275, 315, 319, & 342).
3. A new part of speech concept which breaks with tradition and organizes the functional classes in the language according to the most suitable form for processing in the computer (R-7).	3. This is exactly what Oettinger alleges for his program (R-253, first par.).

4. Appellant's programs are open ended (R-9), his dictionaries can be updated and errors corrected (R-10, 27, & 43-45).

4. Oettinger's program also discloses these features (R-315, 317, 331, 335, 347-352, 356-363).

5. Sentences are repeatedly scanned to eliminate ambiguities (R-10-11).

5. Oettinger appears to scan texts at least twice by what he refers to as the "panning for gold" and "fishnet" technique (R-326-327, 331-333, & 344; also see R-366).

6. Whole sentences or a plurality of sentences are scanned to resolve intermediate or syntactic ambiguities (R-11).

6. Oettinger recognized the necessity of considering syntax in order to have an effective translation (R-232-233, 237-238, & 319).

7. The ability to resolve multiple meanings by use of topical glossaries (R-11-12, & 61).

7. Although Oettinger does not include topical glossaries as such, he certainly considers the problem and weighs the merits of providing such glossaries versus the simple expedient of merely entering everything in his dictionary. Moreover, he states that a guide as to such usage may be obtained as the result of operating the dictionary (R-331).

8. Appellants' algorithm considers idioms and idiomatic expressions (R-12).

8. Oettinger also recognizes that idioms must be considered (R-272).

9. Appellant provides a limited semantic (L.S.) dictionary to resolve multiple meanings and eliminate semantic problems (R-12-17, & 28-29).

9. Actually, all of Chapter 6 of Oettinger represents a study of the meanings of words, i.e. semantics (R-253-275), and Oettinger makes reference to problems of semantics in his breakdown of how specific characters of a word are entered into his computer (R-66).

10. Appellant's dictionary includes a high frequency/idiom portion and a main dictionary lookup (R-22-27).

10. As noted in item 8, *supra*, Oettinger does recognize the problems of idioms. Moreover, he does investigate the possibility of considering only the high-frequency words in a dictionary (R-327-331, & 333).

11. Appellant's program resolves parts of speech and homograph ambiguities (R-29-30).

11. Oettinger certainly resolves ambiguities in parts of speech when he classifies his words according to the kinds of ideas denoted and the function performed in sentences such as nouns, verbs, adjectives etc. See item 3, *supra*, and Chapter 6 (R-253-275).

	Moreover, homograph ambiguities are also considered in Oettinger (R-226, 230-231, 232-233, & 376).
12. Finally, each word in appellant's master stem dictionary have attached codes which identify a word stem and its inflections (R-37-43).	12. Oettinger's dictionary clearly does consider words and their stems (R-226-252; Fig. 37, R-247; R-317; 339, & 343).

In addition to the functional features tabulated above, Oettinger also provides a procedural or mechanical correspondence to appellant's program which is tabulated as follows:

PROCEDURAL OR MECHANICAL FEATURES

Appellant

1. As a first step toward implementing his program, appellant converts the Russian text from the Cyrillic alphabet to the Latin alphabet which is recorded on magnetic tape for insertion into the computer (R-19-20 & 55).	1. Oettinger translit- erates the Cyrillic text in a similar manner and records it on magnetic tape for insertion into the computer (R-366-371, especially 370-371).

2. The dictionary lookup is performed and a further magnetic tape output is obtained (R-20).

2. (R-370-374)

3. The information on the output tape is printed out as English text (R-20).

3. (R-374; and Figs. 70 & 71, R-377-378).

4. While in the dictionary lookup stage, appellant's words are sorted in ascending alphabetical sequence (R-25-26).

4. (R-340-342, 362-363, & 373).

5. Finally, appellant employs the concept of nested subroutines to provide a more extensive program (R-7).

5. Although Oettinger does not use the term "nested," it appears clear that this concept was explored but discarded since Oettinger's program is experimental (R-322-323).

In view of the above comparison, one might reasonably ask what are the differences between appellant's programmed system and that of Oettinger? In answer it should be emphasized that Oettinger's system is experimental in nature and employs a machine which is limited in comparison to appellant's fourth generation computing system. As a result, Oettinger produces a "trot" (R-374) which must be edited manually, as indicated by the appendix to Chapter 8 (R-388-400). However, Oettinger indicates that the next step of his experimental system is an

automatic editing (R-386). Oettinger's
system is thus distinguished from appellant's
which produces a fully automated translation.
However, since Oettinger appears to address
every point considered in appellant's
program, the question again arises, wherein
lies the difference? Clearly, the only
answer must be in appellant's specific
program. Specifically, in terms of claim
1 (Br-8), appellant's point of departure
from the teachings of the prior art lies
in the translation algorithm which includes
the programming of memory offset address
linkages for each word of source text,
analyzing the source text words a sentence
at a time, and using the memory offset
address linkages for obtaining the target
language translation. Thus the Board of
Appeals was correct in finding (R-189-190)
a close analogy between this case and
Christensen. Therefore, just as the Office
tribunals held in *Christensen, supra,*
"[w]hile this discovery of the appellant
may constitute an important contribution
to the art of [language translation], unless
it falls within the four statutory subject
matter of 35 U.S.C. 101 it cannot be
protected by the patent laws." Here, it is
respectfully submitted that appellant's
claims, wherein the sole novelty lies in
the programming steps for a computer as
set forth above, cannot fall within the
statutory subject matter of 35 U.S.C. 101.

> 4. *Appellant's Various Attempts*
> *To Show That His Claims Define*
> *Statutory Subject Matter Are*
> *Not Persuasive.*

Appellant first asserts that his
invention is a new use of an old machine and

thus proper statutory subject matter (Br-15-18). Appellant cites *In re Prater*, 56 CCPA 1360, 415 F.2d 1378, 159 USPQ 583 (1968); on rehearing, 56 CCPA 1381, 415 F.2d 1393, 162 USPQ 541 (1969); *In re Knowlton*, 481 F.2d 1357, 178 USPQ 486 (CCPA 1973); *Benson, supra;* and *In re Johnson*, 502 F.2d 765, 183 USPQ 173 (CCPA, 1974) in support of his position. Concerning *Prater* and *Knowlton*, it is submitted that both of these decisions turned on a 35 U.S.C. 112 issue, and there-fore, are not relevant to an issue under 35 U.S.C. 101. Concerning *Benson*, appellant quotes the portion of the opinion dealing with a program servicing a computer. As pointed out above, appellant's program does not service a computer, it merely uses the computer. Concerning *Johnson*, that decision was reversed by the Supreme Court in *Dann v. Johnson*, 425 U.S. 219, 189 USPQ 257 (1976) under 35 U.S.C. 103. Moreover, the claims at issue in *Johnson* were appartus claims, and thus, *Johnson* is not pertinent to appellant's process claims. Finally, it is immaterial whether appellant's claims are directed to a new use of an old machine where that use is not, under *Benson*, a process within the meaning of the statute, as fully set forth above.

Appellant next argues that it is improper for the Board to ignore his claimed invention, holding it as being a rule or algorithm (Br-18-21). In answer it is submitted that the Board did not ignore appellant's claimed invention, but specifically addressed the claims in holding that they are not statutory. Moreover, appellant's claims recite the details of his computer program, as pointed out above, and they do

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fit into the definition of an algorithm.[5]

Appellant next argues that he discloses a specific end use which was not the case in *Benson* (Br-21-22). In answer, it is submitted that appellant's end use can be construed as broadly as that of *Benson*, as pointed out above.

Appellant further argues that his claimed invention is not merely a different algorithm from that of Oettinger (Br-23-24). To the contrary, it is submitted that the only essential difference between Oettinger and appellant's invention is the claimed computer program, as fully set forth above.

Appellant asserts that his invention is patentable under *In re Chatfield, supra* (Br-24-26). However, as pointed out above, the *Chatfield* decision is not final.

Finally, appellant argues that the examiner's rejection on the technological arts is not applicable to his invention (Br-26-28). Whether appellant's invention

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[5] A statement of the steps to be followed in the solution of a problem. STANDARD DICTIONARY OF COMPUTERS AND INFORMATION PROCESSING, Martin H. Weik, Hayden Book Co. Inc., New York, 1969.

is within the technological arts or not
is immaterial. The only real question at
issue is whether appellant's claims are
directed to statutory subject matter. For
the reasons fully set forth above, it is
submitted that they are not.

CONCLUSION

It is submitted that the decision
of the Board of Appeals, sustaining the
examiner's rejection of claims 1, 17, 32,
36 and 51-53, is correct and, accordingly,
should be affirmed.

Respectfully submitted,

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July 1977

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OPINION OF THE BOARD OF APPEALS UPON
REQUEST FOR RECONSIDERATION dated
December 13, 1976

UPON REQUEST FOR RECONSIDERATION

In a paper filed November 19, 1976, appellant requests reconsideration of our decision dated April 29, 1976, wherein we sustained the rejection of all claims under 35 USC 101 and entered new rejections under 35 USC 103 as to claims 1, 32, 36, and 51-53, and under 35 USC 112 as to claims 11-13.

The examiner having indicated by official action dated September 17, 1976 that the rejections under 35 USC 112 and 103 have been overcome, so much of our original decision as related to these rejections is no longer effective.

Appellant requests that we reconsider our decision affirming the rejection under 35 USC 101 of all claims.

Beginning on page 3 of his most recent paper, he assigns three bases for reversal. First, he calls attention to the fact that the claimed invention is one for "A method for translation between...natural languages using a programmable digital computer system".

While we recognize that the end result of practicing appellant's invention involves the translation between natural languages, we remain of the opinion that the steps recited in the claims are word pictures of operations taking place within the computer incident to the operation of the computer program.

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For this reason, we find no basis for departing from our original decision based upon the end use characterization quoted above.

Secondly, appellant urges as a distinction that the claimed method is practiced on a "programmable digital computer system" having "a main memory". Except for certain data processing systems in the art wherein the logic or arithmetic unit has itself been characterized as a computer, we would consider it difficult to conceive of a computer system without "a main memory". Certainly, we would consider this true of "programmable digital computer systems" as conventionally understood. We find in appellant's assertion no circumstance which would remove appellant's case from the workings of the statute.

As a third reason (appellant's request, page 4), appellant urges that the claimed method is concerned with the efficient use of a computer system and main memory so as to enable the handling of the large masses of data, large tables, etc., to effect a complete translation to one natural language to another. Our discussion of the analogy to be drawn between appellant's application and the circumstances in In re Christensen, 470 F.2d 1392, 178 USPQ 35, page 4 of our decision, addresses this matter.

We have reviewed the arguments and authorities advanced by appellant beginning on page 4 of his request, item III, but find no basis for departing from our original decision.

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As for appellant's remarks, item IV, beginning
page 6 of his request, we reiterate that although
appellant's claimed subject matter may be characterized as a
method for translating, it is in addition directed to the
carrying out of rules of operation within the computer, e.g.
programs, which are subject, we think, to the holding in the
Benson case.

Beginning on page 7 of his request, line 10,
appellant has misconstrued the language of our original decision.
The phrase "their language" as employed by us, original
decision, page 3, first full paragraph beginning at line 11,
related to the language of the Supreme Court not the language
of the claimed subject matter. This will be apparent from
the lines immediately subsequent in our original decision where
we refer to "their language", that is, the language of the
Supreme Court, a portion of which we reproduced in our
original decision on page 3.

At the bottom of page 7 of his request, appellant
endeavors to draw distinctions between the instant case
and the fact situation obtaining in Christensen. Again, the
argument hinges upon the word "algorithm". We offer a
definition from "Computer Dictionary and Handbook" by Sippl
& Sippl, Howard W. Sams and Co., Inc., the Bobbs-Merrill Co.,
1972, second edition:

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"algorithm---1. A fixed step-by-step procedure for accomplishing a given result; usually a simplified procedure for solving a complex problem, also a full statement of a finite number of steps. 2. A defined process or set of rules that leads and assures development of a desired output from a given input. A sequence of formulas and/or algebraic/logical steps to calculate or determine a given task; processing rules."

We draw from the above definition the conclusion that whether the rules, which are employed in the data processing for language translation as recited in the claims of appellant, are characterized in mathematical terms or in word configurations, they nevertheless fall within the ambit of the definitions stated for the term "algorithm".

As for the pertinency of Gottschalk v. Benson, 409 US 63, 175 USPQ 673, we have carefully considered appellant's most recent remarks beginning at the middle of page 8 of his request. We are mindful of the fact that the end result achieved in Benson, namely, conversion from binary coded decimal to binary, differs from that in appellant's system, namely, translation or conversion from one natural language to another. The language of the Benson decision, however, we remain of the opinion, applies in the instant case.

In our consideration of appellant's request, we have also had the benefit of two recently decided cases in the CCPA, In re Chatfield and In re Noll, both decided November 18, 1976. We have reviewed the language of Benson in the light of these decisions but remain persuaded that we have construed the language of the Benson case and its holding in a reasonable manner.

In summary, appellant's request for reconsideration is granted to the extent that we have in fact reconsidered our original holding. We have modified our original decision by indicating that, due to the examiner's action, the rejections under 35 USC 103 and 112 are no longer effective. Appellant's request is otherwise denied.

MODIFIED

R. D. Bennett
Examiner-in-Chief)

)   BOARD

Examiner-in-Chief)   OF

)   APPEALS

Terry L. Craig
Examiner-in-Chief)
(Acting)   )

[180]   THE OPINION OF THE BOARD OF APPEALS
          dated April 29, 1976

Before Bennett and Burns, Examiners-in-Chief, and Craig,
Acting Examiner-in-Chief.

Burns, Examiner-in-Chief.

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          This is an appeal from the final rejection of claims
1-13, 15-24, 26, 28-36, 40, 41 and 43-56, constituting all the
claims presently in the case.

          The disclosure is directed to a method of translating
from one natural language to another employing a program for a
digital computer.

          We reproduce claim 1 as representative:

          1.   A method for translation between source and target
natural languages using a programmable digital computer system,
the steps comprising:

[181]   (a)   storing in a memory a source text to be translated;

     (b)   scanning and comparing the source text words with dictionaries of source language words stored in a memory and for each source text word for which a match is found, storing in a file in a memory each word and in association with each such word, coded information derived from such dictionary for use in translation of such word, the coded information including offset address linkages to stored grammar and target language translations for the word;

     (c)   analyzing the source text words in its file of words, sentence by sentence, and responsive to the coded information including the offset address linkages

          (1)   obtaining the target language translation of words from memory; and

          (2)   reordering the target language translation into the proper target language sequence.

     We cite the following reference for the purposes of 37 CFR 1.196(b):

Oettinger, Automatic Language Translation, Harvard University Press, Cambridge, Massachusetts, 1960, pages 4, 6-13 and 127-302.

While we do not refer specifically to all of the pages cited above in our discussion of this reference, the pages are cited in block in order to provide continuity in understanding the text.

     All of the claims have been rejected under 35 USC 101 as being directed to non-statutory subject matter. The examiner has cited Gottschalk v. Benson et al, 409 US 63, 175 USPQ 673. He indicates that the program implemented method involved here has no substantial or practical application except in connection with the general purpose digital computer. He cites several other decisions directed to matters relating to computer programming.

Appellant, beginning on page 5 of his brief, urges that his process is within the technological arts. He urges that the Supreme Court in Gottschalk v. Benson, supra, did not hold that all computer programs are unpatentable. He draws attention to the particular nature of the claimed subject

[182] matter in Benson and urges that there is a "sharp contrast to the present invention" which it is indicated is for the "actual method or program for operating the computer", brief, page 8, paragraph two. He then procedes to an analysis of certain of the individual claims to demonstrate the distinction urged. Further, it is argued that In re Prater and Wei, 159 USPQ 583 (CCPA, 1968), decision on rehearing, 162 USPQ 541 (CCPA, 1969), was not in fact overruled by the Supreme Court in the Benson case and that therefore the rejection is improper.

We have given careful consideration to the arguments advanced by appellant in his brief and reply brief in the light of the remarks of the examiner in his answer, however, we find ourselves in agreement with the examiner. We would draw attention to the fact that appellant's cluster of programs are in effect a rule (or rules), that is, an algorithm (algorithms), designed for the translation of text from one natural language to another natural language. The claimed subject matter is admittedly much more complex than the algorithm or algorithms which the Supreme Court had occasion to address in the Benson case. Their language, however, sets no limitations as to the nature, extent or complexity of an algorithm. Appellant on

page 8 of his brief has quoted their language which we will repeat for continuity in our discussion.

> "It is conceded that one may not patent an idea. But in practical effect that would be the result if the formula for converting binary code to pure binary were patented in this case. The mathematical formula involved here has no substantial practical application except in connection with a digital computer, which means that if the judgment below is affirmed, the patent would wholly pre-empt the mathematical formula and in practical effect would be a patent on the algorithm itself."
> (175 USPQ 626).

[183' Notwithstanding appellant's arguments concerning the applicability of Prater and Wei, supra, we find ourselves constrained by the Benson case and in particular by the language quoted from it above.

We consider In re Christensen, 178 USPQ 35, (CCPA, 1973). to be in point in the construction of the Benson case. In Christensen, the prior art taught all of the claimed method steps to a method of determining the porosity of sub-surface formations in a geophysical prospecting method except the step drawn to computing the porosity of a formation. Christensen employed "a novel quadratic equation". The court, at 37, said:

> "The issue before us in the instant case is also a narrow one, namely, is a method claim in which the point of novelty is a mathematical equation to be solved as the final step of the method, a statutory method? We follow the Supreme Court in concluding that the answer is in the negative."

We find an analogy here in that the prior art (Oettinger as indicated below) teaches input of natural language text to a computer for translation to another language. Oettinger, within the computer, processes the textual material according to a particular "formula" or algorithm. Output in a different natural language is achieved. Appellant does likewise, that is, inputs text in one language, processes the textual material in accordance with appellant's own processing rules, e.g., formulas or algorithms and generates an output text in a different natural language. In short, appellant, as did Christensen, has contributed a different algorithm or formula to be used in language translation.

Accordingly, we will sustain this rejection.

[184]   NEW REJECTIONS UNDER 37 CFR 1.196(b)

Claims 1, 51 and 52 are rejected under 35 USC 103. As evidence of obviousness, we proffer Oettinger. While it is recognized that appellant's disclosure appears to be directed to a more sophisticated attack on the problem of language translation than that disclosed in Oettinger, nevertheless, we find claim 1 and other claims treated below to have language of such scope and extent that Oettinger satisfactorily responds.

CLAIM 1

1. A method for trans-
lation between source and
target natural languages using
a programmable digital computer
system, the steps comprising:

(a) storing in a memory
a source text to be translated;

(b) scanning and comparing
the source text words with
dictionaries of source language
words stored in a memory and for
each source text word for which a
match is found,

storing in a file in a
memory each word and in associ-
tion with each such word, coded
nformation derived from such
dictionary for use in translation
f such word, the coded information
ncluding offset address linkages
o stored grammar and target
anguage translations for the word;

OETTINGER

The overall system for
translation is shown on
page 266, Figure 63 and
is described on pages
265 and 267.

Input tapes shown in
Figure 45 on page 233
constitute a memory which
stores the source text to
be translated. The
memory can also be con-
sidered as the "file of
standardized text" shown
in Figure 63, page 266,
which is described on
pages 265-267.

The scanning and comparing
step is described in
section 8.3, page 271 and
the obtaining of a match
is particularly described
beginning with the last
two lines of this page
through page 274, line 1.

Oettinger, page 265,
section 8.1, paragraph 1,
states: "The basic
function of this system
is to adjoin to strings
occurring in a text the
information about these
strings that is stored in
the dictionary file.---"

[185] CLAIM 1

The result of the match step is the "alphabetic sub-dictionary" described beginning with the last four lines of page 274, see Figure 69, page 276. It will be noted that the coded information derived from the dictionary stored in the memory by this step includes stored grammar, that is, the affixes, and target language translation for the word obtained from the dictionary, which dictionary is formatted wit Russian standard five word items and corresponding English.

(c) analyzing the source text words in its file of words, sentence by sentence, and responsive to the coded information including the off-set address linkages

Analyzing the source text words is performed in the "next pass" described beginning on page 275, li 6 and is responsive to the coded information relating to affixes and ti like. Note page 267, lin 6-9, "The boxes---for the next".

(1) obtaining the target language translation of words from memory; and

A target language trans-lation is obtained as sho in Figure 70, page 278, t augmented text.

(2) reordering the target language translation into the proper target language sequence.

An editing program serve: to reorder the target language translation int(a proper target language sequence for visual in-spection as shown in Fig 71, page 279, the des-cription for which is fo in section 8.4, page 275

With regard to the phrase "offset address linkages" found in (b) of the claim, we note a variety of phrases found in appellant's specification.

Thus:

Page 34,

lines 5 and 6, "record sub-part offset pointers (record offset)"

Page 43,

lines 2 and 3, "disk address pointers and memory offset pointers",

Page 44,

lines 12 and 13, "memory offset (GRAM OFFSET)",

line 19, "GRAMMAR OFFSET",

lines 26 to 28, "ENG. OFFSET" and "address offset linkage"

Page 45,

lines 13 and 14, "memory offset address (IDIOM OFFSET, ---)",

line 17, "memory offset address",

lines 20 and 21, "table byte offset address",

line 24, "byte offset",

Page 46,

lines 20 and 21, "byte offset information",

Page 51,

line 29, "address offset",

Page 52,

lines 10 and 14, "grammar offset" and

line 17, "address linkage",

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Page 59,

lines 18-21 describe the operation of

"pointing" as a form of linkage.

We further note references in the diagrams to "byte offset" on page 84, to "grammar offset" and "idiom offset" on page 88, to "English offset" on page 89 and finally on page 90 to "compound group offsets", "byte offset to target meanings", and to "meaning offset address".

It would appear that an analysis of appellant's claim in the light of his specification would admit of the construction of the term "offset address linkages" being related to one or more of the varied codes, references to which have been tabulated above. Within this broad framework of construction of the phrase "offset address linkages", the Oettinger codes for affixes and the like appear to respond to the language of the claim. Should it be considered that some semantic distinction can be drawn between Oettinger's codes and appellant "linkages", we consider it obvious to provide linkages of the character recited in the claim in lieu of Oettinger's codes in his configuration. Both serve to refine the operation of the dictionary.

Since the "trot" shown in Figure 71, page 279, proceeds from word to word, we consider the programs of Oettinger to analyze the Russian text "sentence by sentence" within the broad but reasonable meaning of that phrase. In this regard, note page 265, paragraph 1.

Claim 17 is rejected under 35 USC 103 for the reasons applied against its parent claim 1. It is apparent that the Russian sentence during the processing subsequent to matching can be said to have been subjected to the step of "placi. source language sentence in a special area, reserved for this purpose, in the computer memory", for example, when it is placed in the file of augmented text as shown in Figure 63, page 266.

Claim 32, dependent from claim 1, is rejected under 35 USC 103 for the reasons applied against claim 1. Note, section 8.3, page 271, that analysis of each word takes place serially, that is, in sequences of words in the source language. Those words are necessarily "within phrases and clauses" as an inspection of the Russian text of Figure 64, page 268, indicates. Such analysis can be said to be "in relation to the target language sequence" within the broad meaning of this clause, note the understandable translation, as indicated by a reading of the English text in Figure 71, page 279. The target language is expressed symbolically together with assigned numbers and letters (affixes) as indicated by an inspection of the Russian Figure 70, page 278. Manifestly, the print-out of Figure 71, page 279, is effected by "taking into consideration each source word" since it is the result of the dictionary look-up.

Claim 36 is rejected under 35 USC 103 as being obvious in view of Oettinger. The reference is applied as against

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parent claims 32 and 1. An inspection of Figure 63, page 266 shows the final step of format editing as described on page 275, note, for example, line 6 et seq. The skilled artisan can be expected to make such computer storage arrangements as are necessary for the text prior to final print-out. Whether this storage allocation takes place in any particular portion of the memory will, in large part depend upon the available storage of the particular configuration of computing

[189] equipment employed. This being the case, we think it would be obvious to such a person to effect transfer of the translation when such a memory area is filled to the printer or to temporary storage if available. Needless to say, the sequence of the translated words, as for example in Figures 70 and 71, pages 278, 279, is a result of the "relationship between the source and target languages" and is "set up previously by the numbers given after each word", note page 275, lines 6 through 8.

Claim 53 is rejected under 35 USC 103 as being obvious over Oettinger as applied above. Oettinger, page 4, lines 12-15, notes the apparent availability to him of a multiplicity of machines including the IBM 705. The artisan practicing the invention may be expected to make use of whatever hardware is available to him. We think it would occur as an obvious feature to such a person with Oettinger's reference to IBM equipment before him to practice the invention on a Model 360 series, the 65 for example, this series of

computers having superceded the Model 705 by the time the instant application was filed. It does not appear that appellant has urged criticality of a particular configuration in his discussion of this feature in the brief, page 9, last paragraph. It is axiomatic that computer tasks be matched to computer hardware of adequate size and configuration.

Claim 11 and its dependent claims 12 and 13 are rejected as under 35 USC 112, paragraph two, as being indefinite. The phrase "the low frequency file" lacks antecedent basis in the parent claim 1. It is noted that this phrase occurs for the first time in claim 2. Could it have been intended that claim 11 depend from claim 2?

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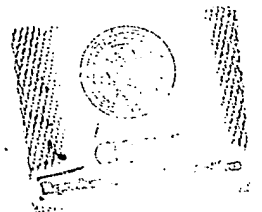
[190]   Any request for reconsideration or modification of
this decision by the Board of Appeals based upon the same
record must be filed within thirty days from the date of the
decision. (37 CFR 1.197). Should appellant elect to have
further prosecution before the examiner in response to the
new rejection under 37 CFR 1.196(b) by way of amendment or
showing of facts or both, not previously of record, a
shortened statutory period for making such response is herei
set to expire thirty days from the date of this decision.

        In summary, we have sustained the rejection of al
claims under 35 USC 101 and we have entered new rejections
under 35 USC 103 as to claims 1, 17, 32, 36, 51-53, and und
35 USC 112 as to claims 11-13.

        The decision of the examiner is affirmed.

AFFIRMED, 37 CFR 1.196(b)

                                    Examiner-in-Chief)

                                                        BOARD
                                                         OF
                                    Examiner-in-Chief   APPEALS

                                    Examiner-in-Chief
                                       (Acting)